INL/EXT-20-60778

BISON High Burnup Structure Modeling Capabilities Validated with a Selection of the Halden IFA-650 Rods

November 2020

NEAMS Technical Report

Aysenur Toptan[1] and Kyle A. Gamble[1]

[1]Idaho National Laboratory

Idaho National Laboratory

INL is a U.S. Department of Energy National Laboratory operated by Batelle Energy Alliance, LLC

DISCLAIMER

This information was prepared as an account of work sponsored by an agency of the U.S. Government. Neither the U.S. Government nor any agency thereof, nor any of their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness, of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. References herein to any specific commercial product, process, or service by trade name, trade mark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the U.S. Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the U.S. Government or any agency thereof.

BISON High Burnup Structure Modeling Capabilities Validated with a Selection of the Halden IFA-650 Rods

NEAMS Technical Report

Aysenur Toptan[1] and Kyle A. Gamble[1]

[1]Idaho National Laboratory

November 2020

Idaho National Laboratory
Computational Mechanics and Materials Department
Idaho Falls, Idaho 83415

http://www.inl.gov

Prepared for the
U.S. Department of Energy
Office of Nuclear Energy
Under U.S. Department of Energy-Idaho Operations Office
Contract DE-AC07-05ID14517

Page intentionally left blank

Abstract

The U.S. Department of Energy (DOE)'s Nuclear Energy Advanced Modeling and Simulation (NEAMS) program aims to develop predictive capabilities using computational methods for the analysis and design of advanced reactor and fuel cycle systems. This program has been supporting the development of BISON, a high-fidelity and high-resolution fuel performance tool at the engineering scale.

This document continues the analysis and refinement of capabilities added to BISON early this calendar year in regards to the incorporation of capabilities applicable to extended burnups in response to industry interest. Details are provided on high burnup thermal conductivity models, a refitting of the high-burnup structure (HBS) porosity formation model to include additional data, a coupling of the HBS volume fraction model to thermal conductivity and fine fragmentation models, and validation activities. The IFA-650.4 and IFA-650.9 loss-of-coolant accident (LOCA) analyses are revisited with the latest developments in this report. A new validation case, IFA-650.14 has also been added to the BISON test suite.

Page intentionally left blank

Acknowledgments

The submitted manuscript has been authored by a contractor of the U.S. Government under Contract DE-AC07-05ID14517. Accordingly, the U.S. Government retains a non-exclusive, royalty-free license to publish or reproduce the published form of this contribution, or allow others to do so, for U.S. Government purposes.

This research made use of the resources of the High Performance Computing Center at Idaho National Laboratory, which is supported by the Office of Nuclear Energy of the U.S. Department of Energy and the Nuclear Science User Facilities under Contract No. DE-AC07-05ID14517.

Page intentionally left blank

Contents

List of Figures

List of Tables

List of Symbols

Greek Letters

α	volume fraction of the new phase	
ϵ	observed error	
γ	Avrami constant	
μ	mean	
σ	standard deviation	
$\boldsymbol{\theta}$	coefficient matrix	
$\boldsymbol{v}$	observations	

Roman Letters

Bu	burnup	MWd/kgU
gd	gadolinia concentration	
H	Heaviside step function	
h	mesh size	
K	transformation rate constant	
k	thermal conductivity	$\mathrm{W/m-K}$
p	porosity or observed order-of-accuracy	
r	radius or mesh refinement factor	
T	temperature	K
t	time	

Subscripts

ann	annealing
eff	effective
i	inner
irr	irradiation
m	maximum
o	outer

Acronyms

BWR boiling-water reactor
DOE U.S. Department of Energy
ETC effective thermal conductivity
FE finite element
FEM finite element method
FUMAC Fuel Modelling in Accident Conditions
HBS high-burnup structure
INL Idaho National Laboratory
LOCA loss-of-coolant accident
LWR light-water reactor
MOOSE Multiphysics Object-Oriented Simulation Environment
NEAMS Nuclear Energy Advanced Modeling and Simulation
OLS ordinary least square
PI plastic instability
PIE post-irradiation examination
OS overstrain
PWR pressurized-water reactor
QoI quantity of interest
SEM scanning electron microscopy
SRQ system response quantity
TD theoretical density
TRISO tristructural isotropic

Page intentionally left blank

1. Introduction

The U.S. Department of Energy (DOE)'s Nuclear Energy Advanced Modeling and Simulation (NEAMS) program aims to develop predictive capabilities using computational methods for the analysis and design of advanced reactor and fuel cycle systems. The NEAMS program has been supporting the development of BISON, which is used as the high-fidelity and high-resolution fuel performance tool at the engineering scale.

BISON (Williamson et al., 2012; Hales et al., 2014b; Williamson et al., 2020) is a fuel performance code that models the thermo-mechanical behavior of nuclear fuel using high-performance modeling and simulation. BISON is established on the Multiphysics Object-Oriented Simulation Environment (MOOSE) framework[1] (Gaston et al., 2009; Permann et al., 2020) of Idaho National Laboratory (INL). BISON solves the fully-coupled equations of energy conservation, mechanics, and species conservation to account for a large range of fuel behaviors. It is capable of modeling traditional light-water reactor (LWR) fuel rods, fuel plates, and tristructural isotropic (TRISO) fuel particles (Hales et al., 2013, 2020; Jiang et al., 2020). It can employ three-dimensional Cartesian, two-dimensional axisymmetric, two-dimensional generalized plane strain, layered two-dimensional, layered one-dimensional, and one-dimensional radial spherical geometries. It includes empirical models for a large variety of fuel thermal and mechanical physics.

Increasing recent interest in applications at extended burnups ($\geq 60\,\text{MWd/kgU}$) motivated this work. In particular, we focus on thermal conductivity modeling for LWR fuel rods in engineering-scale applications. The occurrence of the high-burnup structure (HBS) formation in a range of 60–80 MWd/kgU (Lassmann et al., 1995; Rest and Hofman, 1991; Rest, 1993; Lemekhov, 1994; Pizzocri et al., 2017) impacts the thermal conductivity. Our goal is to enhance BISON's thermal modeling capabilities for HBS to provide an improved prediction of the fuel behavior at extended burnups. As utilities push to increase the regulatory discharge burnup limit from 62 MWd/kgU to 68 MWd/kgU and beyond, advanced modeling and simulation tools are necessary for understanding fuel rod behavior during both normal operation and design-basis accidents (e.g., loss-of-coolant accident (LOCA)). The previous study (Toptan et al., 2020a) focused on expanding the HBS modeling capabilities of BISON during accident and high-burnup conditions, which outlined the new code capabilities. This study continues the analysis and refinement of capabilities added to BISON for extended burnups in response to industry interest. Details are provided on high burnup thermal conductivity models and calibration (Chapter 2), a refitting of the high-burnup structure (HBS) porosity formation model to include additional data (Chapter 3), the coupling of the HBS volume fraction model to thermal conductivity

[1] a high-performance, open source, C++ finite element (FE) framework: `www.github.com/idaholab/moose`

models (Chapter 4), and a revisit of the validation cases IFA-650.4 and IFA-650.9 using the new models (Chapter 5). A new validation case, IFA-650.14 has been added. The document concludes with a discussion of the results and future work (Chapter 6).

2. Thermal Conductivity Modeling

In this study, we aim to quantify the model form uncertainties[1] in the model development procedure—particularly the uncertainties in the thermal conductivity model of uranium dioxide (UO_2) fuels[2]—based on the calibration of a correlation through an extensive survey of thermal conductivity data. The calibration methodology is described in Section 2.1 in addition to the steps of how to deduce uncertainty information from the calibration procedure. The experimental data used in the model calibration are described in Section 2.2 and provided in Appendix A for reproduciblity purposes. The selected computational model in the calibration procedure is described, and calibration results are provided in Section 2.3. Lastly, the model form uncertainties from the calibration are propagated in Section 2.4 using the MOOSE Stochastic Tools to demonstrate and establish confidence in the response values. The uncertainty quantification in the nuclear engineering analysis is important to estimate how uncertain input parameters and models converted into the integral responses of analyses. Safety margins are historically dependent on the conservative estimation in engineering analysis and design methods. For example, in normal operating conditions, the fuel melting temperature limits the total power output of a reactor. A full characterization of the temperature distribution within the nuclear fuel rod requires an understanding of the thermo-mechanical behavior of the fuel and cladding, in addition to an understanding of the heat transfer characteristics in the void that is between the fuel and cladding that is filled with an inert gas (Toptan, 2019; Toptan et al., 2019c,a,b, 2020b). Fuel behavior is also consequential to the modeling of severe accident scenarios, as the cladding serves as the first barrier preventing releases of nuclear material.

[1]Sources of uncertainties in engineering modeling can be categorized under three main categories: (1) *Model input uncertainties* refer to the uncertainty in any input for the solution of the mathematical model (e.g., physical geometry, experimental settings), which is typically reported by the experimentalists who performed the experiments. (2) *Model solution uncertainties* refer to the discrepancies due to the numerical approximations in the discretized mesh (convergence), which is typically reduced by analysts who perform the numerical simulations in the computer code by refining the mesh (e.g., Refs. (Hales et al., 2014a; Toptan et al., 2020c,d) for BISON). (3) *Model form uncertainties* that are referred to the uncertainties related to the accuracy of the mathematical model that represent the real-life behavior of the system response quantity (SRQ) (validation, comparing the mathematical model with measured values). This type of uncertainty is often not reported in the literature; however, one of the most important uncertainties is required to quantify how certain or uncertain SRQ is due to the selected mathematical model if the mathematical model encounters the biases due to the different measurement techniques, laboratories, etc. in the model development procedure.

[2]The uncertainty in the fuel thermal conductivity is one of the most important sources of uncertainty in the thermal analysis of nuclear fuel (Bouloré et al., 2012).

2.1 Model Calibration

Calibration is the process of using observations—either synthetic data or experimental data—to estimate the parameters of a computational model. There are several parameter estimation methods available in the literature. In this study, we use the traditional, common parameter estimation method of OLS. The principle is to estimate model parameters $\boldsymbol{\theta} = \{\theta_i\}_{i=1}^{n}$ by minimizing the differences between observations $\boldsymbol{v} = \{v_i\}_{i=1}^{n}$ and predictions $\boldsymbol{y} = \{y_i\}_{i=1}^{n}$, where predictions are made according to the model function $f(\boldsymbol{\theta})$:

$$\hat{\boldsymbol{\theta}}_{\text{OLS}} = \underset{\theta}{\text{argmin}} \sum_{i}^{n} [v_i - y_i]^2 \tag{2.1}$$

in which the variance estimate is expressed by $\hat{\sigma}^2 = \frac{1}{(n-p)} \boldsymbol{R}^T \boldsymbol{R}$ where $\boldsymbol{R}$ is the residual matrix between the observations and the predictions. The OLS method is a common example of the frequentist methods. The sensitivity matrix $\boldsymbol{\chi}$ of the model function is calculated numerically and used to estimate the covariance of parameter matrix $\boldsymbol{\theta}$. The covariance matrix $\boldsymbol{V}$ can be estimated using

$$\hat{V}(\hat{\boldsymbol{\theta}}_{\text{OLS}}) = \hat{\sigma}^2 \left(\hat{\boldsymbol{\chi}}^T \hat{\boldsymbol{\chi}} \right)^{-1} \tag{2.2}$$

with the sensitivity matrix $\boldsymbol{\chi}$ approximated numerically at each state point from the experimental data as

$$\hat{\chi}_{ij} = \frac{\partial f(x_i, \hat{\boldsymbol{\theta}}_{\text{OLS}})}{\partial \theta_j} \approx \frac{f(x_i, \hat{\boldsymbol{\theta}}_{\text{OLS}} + \epsilon_j) - f(x_i, \hat{\boldsymbol{\theta}}_{\text{OLS}})}{\epsilon} \tag{2.3}$$

with a small perturbation to the j-th parameter value, ϵ_j (Porter et al., 2019).

2.2 Experimental Data

The experimental data are extracted from the available literature. Data sources for thermal conductivity are listed chronologically in Table 2.1. Many experimentalists obtain the data using several measurement techniques, applied primarily in two different ways. Thermal conductivity is either directly obtained or deduced from thermal diffusivity measurements via the relation of $k = \rho c_p \alpha$ in terms of density (ρ), specific heat capacity (c_p), and measured thermal diffusivity (α). Measured thermal conductivity values are typically reported in the literature at 95% TD—thermal conductivity is normalized to a 5% as-fabricated porosity—using a variety of correction methods. To obtain untreated values at full density, the measured values from each dataset, along with the reported methods for making porosity corrections, are all undone. This allows us to apply a consistent correction method to the measurements and minimize differences among different experimental datasets. Thus, in this work, thermal conductivity normalized to a given porosity p

(fraction) (Maxwell, 1873; Eucken, 1940) is obtained by

$$k = k_{95} 1.07895 \left(\frac{1.0 - p}{1.0 + \beta p} \right), \tag{2.4}$$

where k_{95} is the thermal conductivity of the material at 95% TD and β (=0.5) is the geometrical factor (Ondracek and Schultz, 1973).

Table 2.1. Data sources for the thermal conductivity of UO_2, surveyed in this study. Each source is listed chronologically with relative fuel burnup (Bu), temperature (T), additive (e.g., Gd/Pu) contents (y), theoretical densities (TD), and oxygen-to-metal ratio (O/M).

Year	Author	Fuel	Bu (MWd/kgU)	T (K)	y (wt%)	TD (%)	O/M (–)
1953	Norton et al. (1953)⋆	UO_2	0	486-1298	0	74.0	2.000
1954	Kingery et al. (1954)	UO_2	0	473-1273	0	73.3-100.0	2.000
1958	Scott (1958)♮	UO_2	0	1073-1373	0	96.0	2.005
1959	Kingery (1959)	UO_2	0	373-1273	0	90.0-92.5	2.000-2.180
	Deem and Lucks (1959)⋆	UO_2	0	373-873	0	91.9	2.000
	Brenden and Newkirk (1959)⋆	UO_2	0	327-1146	0	93.4	2.000
1960	Lucks and Deem (1960)	UO_2	0	323-1073	0	100.0	2.000
	S. J. Paprocki (Ed.) et al. (1960)⋆	UO_2	0	457-1058	0	92.0	2.010
	Howard and Gulvin (1960)	UO_2	0	473-1573	0	96.0	2.005
1961	Reiswig (1961)	UO_2	0	1106-2385	0	85.0	2.000
	Howard and Gulvin (1961)⋆	UO_2	0	338-1656	0	78.7-100.0	2.000-2.180
	Bethoux et al. (1961)⋆	UO_2	0	4-294	0	94.1	2.000
	Martin and Weir (1961)	UO_2	0	374-1071	0	95.0	2.000
1962	Daniel et al. (1962)	UO_2	0	361-1705	0	86.8-96.5	2.000-2.006
	Godfrey et al. (1962a)⋆	UO_2	0	499-882	0	93.4	2.000
	Godfrey et al. (1962b)⋆	UO_2	0	300-468	0	93.4	2.000
	Godfrey et al. (1962c)⋆	UO_2	0	373-1571	0	93.4	2.000
	Dean (1962)⋆	UO_2	0	338-724	0	93.0	2.000
	Porneuf (1962)⋆	UO_2	0	523-523	0	98.4	2.000
1963	Feith (1963)⋆	UO_2	0	834-2518	0	95.6	2.000
	Lyons et al. (1963)⋆	UO_2	0	2153-2713	0	95.0	2.000
	Daniel and Bates (1963)⋆	UO_2	0	358-617	0	100.0	2.000
	Deem and Matolich (1963)⋆	UO_2	0-1	373-1473	0	85.7-99.4	2.000-2.003
	Bogaievski et al. (1963)⋆	UO_2	0	640-738	0	99.3	2.000
1964	Christensen et al. (1964)‡	UO_2	0	1289-1838	0	94.0	2.000
	Godfrey et al. (1964)	UO_2	0	323-1571	0	93.4	2.000
	Vogt et al. (1964)♮	UO_2	0	473-2273	0	97.0	2.005
	Stora et al. (1964)	UO_2	0	473-2773	0	95.0	2.000
	Hetzler and Zebroski (1964)*	UO_2	0	1073-2073	0	94.0	2.000
	Sievers and Pohl (1964)⋆	UO_2	0	1-204	0	100.0	2.000
1965	Nishijima et al. (1965)	UO_2	0	534-2375	0	100.0	2.003
	Wheeler (1965)	UO_2	0	1250-1698	0	95.0	2.000
	Godfrey et al. (1965)	UO_2	0	216-1571	0	93.4	2.000
1966	Lyons et al. (1966)⋆	UO_2	0	331-2713	0	95.0	2.000
	Schmidt et al. (1966)*	UO_2	0	473-1073	0	95.0	2.000
1967	Aring and Sievers (1967)	UO_2	0	1-201	0	100.0	2.000
	Hetzler et al. (1967)◇	$(U_{1-y},Pu_y)O_2$	0	1069-2157	20	100.0	1.980-2.000
1968	Lagedrost et al. (1968)	$(U_{1-y},Pu_y)O_2$	0	473-1633	100	81.9-96.5	2.000
	VanCraeynest and Weilbacher (1968)	$(U_{1-y},Pu_y)O_2$	0	323-2173	20	95.0	1.902-2.200
	Giby (1968)	$(U_{1-y},Pu_y)O_2$	0	360-1870	20	96.0	2.000
	Kruger (1968)*	UO_2	0	673-2273	0	93.7	2.000
1969	Asamoto et al. (1969)	UO_2	0	1054-2405	0	82.0-95.0	2.009-2.016
	Serizawa et al. (1969a,b)	UO_2	0	1202-2145	0	100.0	1.957-2.006
	VanCraeynest and Weilbacher (1969)†	UO_2	0	373-2573	0	100.0	2.000
	Giby (1969)	$(U_{1-y},Pu_y)O_2$	0	378-1873	25	95.5	1.933-2.000
	Sheely (1969)†	O_2	0	282-2767	0	98.1	2.003
	Ferro et al. (1969)*	UO_2	0	1073-1673	0	90.0	2.000
	Conway and Feith (1969)◇	UO_2	0	306-2658	0	100.0	2.000
1970	Bates (1970)	UO_2	0	289-2773	0	98.4	2.000
	Van Craeynest and Stora (1970)	$(U_{1-y},Pu_y)O_2$	0	373-1073	20	72.3-100.0	2.000
	Serizawa et al. (1969b, 1970)†	$(U_{1-y},Pu_y)O_2$	0	825-1830	10-20	95.9-96.1	1.980-1.990
	Walter et al. (1970)†	UO_2	0	315-1680	0	98.0	2.000
1971	Giby (1971)	$(U_{1-y},Pu_y)O_2$	0	370-1929	0-100	96.0-98.0	2.000
	Schmidt (1971)	UO_2	0	873-2773	0	98.0	2.000
	Laskiewicz et al. (1971)	$(U_{1-y},Pu_y)O_2$	0	362-2552	0-100	84.0-97.6	1.860-2.000
	Moore and McElroy (1971)	UO_2	0	80-421	0	100.0	1.996-2.006
1972	Fayl and Hansen (1972)	UO_2	0	773-2373	0	95.0	2.000
	Weilbacher (1972)‡	UO_2	0	974-3027	0	98.0	2.000
	Giby (1972)	$(U_{1-y},Pu_y)O_2$	0	890-1794	25	89.9-91.5	1.960-2.000
	Goldsmith and Douglas (1972)	$(U_{1-y},Pu_y)O_2$	0	673-1273	16-30	96.0	1.991-1.995
	Schmidt (1972)	$(U_{1-y},Pu_y)O_2$	0	1473-2073	20	100.0	1.930-2.000
	Berman et al. (1972)	UO_2	0	384-2152	0	96.4-97.1	2.000
	Ferro et al. (1972)*	UO_2	0	664-2562	0	95.0	2.000
1973	Goldsmith and Douglas (1973)	UO_2	0	670-1270	0	90.4-98.6	2.000-2.110
	Kamimoto et al. (1973)	UO_2	0	89-296	0	99.6	2.000
	Haley et al. (1973)†	UO_2	0	296-2087	0	95.0	2.000
1974	Hobson et al. (1974)	UO_2	0	546-2491	0	94.9	2.001
	Kolyadin et al. (1974)	UO_2	0	333-2521	0	95.0	2.000
	Gilchrist et al. (1974)	UO_2	0	293-293	0	98.4	2.000
1980	Yamaguchi et al. (1980)	$(U_{1-y},Pu_y)O_2$	0	1176-2665	0-30	85.0-95.0	1.940-2.000
1982	Fukushima et al. (1982)	$(U_{1-y},Gd_y)O_2$	0	673-2015	0-10	94.5-95.9	1.997-2.003
	Newman et al. (1982)†	$(U_{1-y},Gd_y)O_2$	0	294-2256	0-8	95.0	2.000
1983	Fukushima et al. (1983b)	$(U_{1-y},Pu_y)O_2$	0	688-1819	20	95.9	2.000
	Fukushima et al. (1983a)	UO_2	0	682-2016	0	95.6-95.8	2.000
	Fukushima et al. (1983c)	$(U_{1-y},Pu_y)O_2$	0	686-1500	100	96.3	2.000
	Otter and Damien (1983)	UO_2	0	3133-3273	0	95.0	2.000
1988	Bonnerot (1988)	$(U_{1-y},Pu_y)O_2$	0	973-2473	0-100	90.1-98.1	1.967-2.000
1989	Sengupta and Ganguly (1989)	$(U_{1-y},Pu_y)O_2$	0	896-1899	0-4	91.0-91.5	1.997-2.000
1990	Hirai (1990)†	$(U_{1-y},Gd_y)O_2$	0	285-2023	0-10	93.7-98.5	1.995-2.001
1991	Hirai and Ishimoto (1991)	$(U_{1-y},Gd_y)O_2$	0	288-2019	0-10	95.0	2.000-2.002
1992	Lucuta et al. (1992)	UO_2	0-75	300-1773	0	95.0-98.6	2.000
	Massih et al. (1992)	$(U_{1-y},Gd_y)O_2$	0	573-1927	0-6	95.0	2.000
	Tasman (1992)	UO_2	0-75	300-1773	0	95.0	2.000
1993	Yamamoto et al. (1993)†	$(U_{1-y},Pu_y)O_2$	0-35	862-1897	18-28	93.2-93.8	1.970
	Pillai and George (1993)	UO_2	0	301-1399	0	93.4	2.015
1994	Lucuta et al. (1994)	UO_2	0-75	300-1773	0	97.6-98.7	2.000
1995	Lucuta et al. (1995)	UO_2	0-75	296-1773	0	97.2-98.8	2.000-2.084
1996	Amaya et al. (1996)	UO_2	0	278-1399	0	96.5-97.9	2.020-2.200
	Amaya and Hirai (1996)	$(U_{1-y},Gd_y)O_2$	0-60	277-1682	0-10	95.9-97.0	2.000-2.150
	Kosaka et al. (1996)	$(U_{1-y},Gd_y)O_2$	0	290-1727	0-10	95.0	2.000-2.010
	Nakamura et al. (1996)†	UO_2	63	286-1797	0	86.0-94.0	2.000
	Hirai et al. (1996)†	UO_2	0-43	268-1944	0	95.3-98.0	2.000
1997	Ohira and Itagaki (1997)†	UO_2	61	671-1671	0	96.1	2.000
	Wiesenack (1997)	UO_2	0-47	673-3073	0	95.0	2.000
	Baron and Couty (1997)	$(U_{1-y},Gd_y)O_2$	0	292-1813	0-12	95.0	1.995-2.013
	Topliss et al. (1997)	$(U_{1-y},Pu_y)O_2$	0	671-1875	0-10	95.0	2.000-2.020
	Amaya et al. (1997)	UO_2	43	300-1872	0	95.0	2.000
1998	Sheindlin et al. (1998)†	UO_2	0	569-1081	0	96.0	2.000
1999	Ronchi et al. (1999)	UO_2	0	568-2873	0	95.0	2.002
	Musella (1999)	UO_2	0	563-2871	0	95.0	2.002
2000	Yagnik (2000)	$(U_{1-y},Gd_y)O_2$	0-60	570-1878	0-10	96.6	2.000
	Duriez et al. (2000)	$(U_{1-y},Pu_y)O_2$	0	669-2279	3-21	100.0	1.948-2.000
2001	Fujino et al. (2001)	UO_2	0-60	278-1616	0	95.9	2.000
	Albers et al. (2001)	UO_2	0	367-1472	0	95.3	2.000
	Shaw et al. (2001)	UO_2	0	539-1857	0	95.0	2.000
	Minato et al. (2001)	$(U_{1-y},Gd_y)O_2$	0-97	374-1769	0-10	96.5	1.983-2.001
2002	Amaya et al. (2002)†	$(U_{1-y},Gd_y)O_2$	39-60	306-1899	0-4	95.6-96.4	2.000
2004	Ronchi et al. (2004)†	UO_2	33-96	500-1450	0	95.0	2.000
2005	Kim et al. (2005)	UO_2	0	298-1674	0	97.3	2.000
2006	Walker et al. (2006)†	UO_2	102	552-1110	0	94.2	2.000
	Kato et al. (2006)	UO_2	0	841-2247	0	95.0	2.000
2007	Sonoda et al. (2007)	$(U_{1-y},Gd_y)O_2$	53	526-1253	5	91.5	2.000
2009	Grossi et al. (2009)	UO_2	0	298-298	0	90.0	2.000
	Morimoto et al. (2009)	$(U_{1-y},Pu_y)O_2$	0	870-1867	20-40	100.0	2.000
	Iwasaki et al. (2009)	$(U_{1-y},Gd_y)O_2$	0	289-1277	10-14	95.0	2.000
2010	Amaya et al. (2010)	UO_2	60-126	290-1776	0	94.4-95.3	2.000
	Kruglov et al. (2010)†	UO_2	0	933-1863	0	94.5	2.000
	Faêda et al. (2010)†	UO_2	0	298-448	0	93.2-95.0	2.000
2011	Cozzo et al. (2011)	$(U_{1-y},Pu_y)O_2$	0	531-1550	100	95.0	2.000
2013	White and Nelson (2013)	UO_2	0	298-1673	0	95.0	2.000-2.210
	Staicu and Barker (2013)	$(U_{1-y},Pu_y)O_2$	0	502-1602	5-11	94.5-96.1	2.000
2014	Staicu et al. (2014)	$(U_{1-y},Gd_y)O_2$	33-97	488-1528	7	95.0	2.000
2015	Mansur et al. (2015)	$(U_{1-y},Gd_y)O_2$	0	300-300	0-10	87.6-99.3	2.000
2016	Kavazauri et al. (2016)	UO_2	0	338-1966	0	95.0	2.002-2.033
	Pavlov et al. (2016)	UO_2	0	1505-2298	0	96.0	2.000
	Camarano et al. (2016)	UO_2	0	298-373	0	92.9-93.2	2.000
2017	Pavlov et al. (2017)	UO_2	0	2501-2957	0	95.0	2.000
	Camarano et al. (2017)†	UO_2	0	300-300	0	93.8-94.6	2.000
	Morimoto and Ogasawara (2017)	UO_2	0	651-1538	0	80.4-92.0	2.000
	Mansur et al. (2017)	UO_2	0	298-773	0	93.7	2.000
	Skakov et al. (2017)	UO_2	0	305-678	0	95.0	2.000
2018	Saoudi et al. (2018)	UO_2	0	531-1611	0	95.0	2.000
	Vlahovic et al. (2018)†	UO_2	0	499-3062	0	95.0	2.000

Legend:
♮ data are from (International Atomic Energy Agency (IAEA), 1966, Table 1)
† the thermal conductivity is deduced from thermal diffusivity measurements.
The density and specific heat capacities are computed using the relations in Lanning et al. (2005).
‡ from Siefken et al. (2000)
⋆ from Touloukian et al. (1971)
∗ from Brandt et al. (1976)
◇ from Inoue (2000)

2.3 Computational Model

Thermal conductivity data for stoichiometric, unirradiated UO_2 at 95% TD are plotted as a function of temperature in Figure 2.1. The experimental data for very low gas temperatures (e.g., liquid-helium temperature) up to room temperature were measured by Aring and Sievers (1967); Bethoux et al. (1961); Sievers and Pohl (1964). The thermal conductivity is depressed at around $T_N = 30.8\,\mathrm{K}$, known as the Néel temperature (Aring and Sievers, 1967). A similar depression occurs at around 2000 K, when the electronic contribution on the conductivity becomes pronounced. This yields an abrupt increase in thermal conductivity as the temperature approaches the melting temperature.

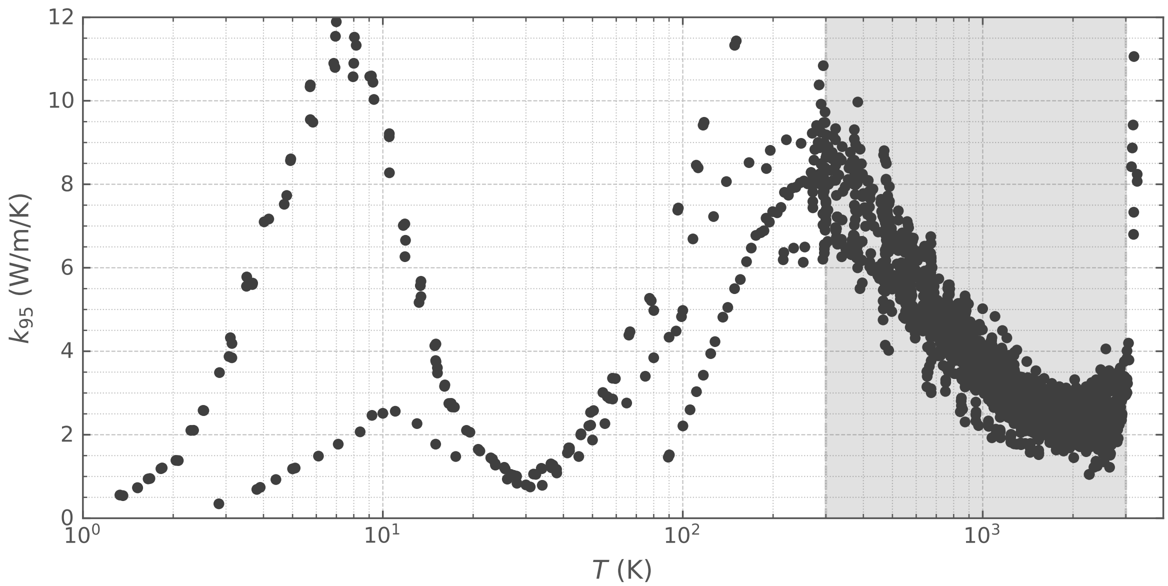


Figure 2.1. UO_2 (stoichiometric, unirradiated) thermal conductivity at 95%TD as a function of temperature. The plot is a semilog plot where the experimental data exhibit bipolar normal behaviors at both very low and moderate temperatures. The temperature interval of interest is selected to be [300 K, 3000 K] (*the shaded region on the plot*). Beyond this range, the melting temperature is approached.

We focused on thermal conductivity modeling for LWR fuel rods in engineering-scale applications. The occurrence of the HBS formation at 60–80 MWd/kgU (Lassmann et al., 1995; Rest and Hofman, 1991; Rest, 1993; Lemekhov, 1994; Pizzocri et al., 2017) impacts thermal conductivity. The conventional thermal conductivity models are tabulated in Table 2.2, along with their applicability ranges for UO_2 fuels, and, the models that are applicable to the high burnups in Table 2.3.

2.3.1 Parametrization

The parametrization refers to the process of describing or representing an equation in terms of parameter(s). In the calibration process, the mathematical model is described in terms of n parameters, for example, by

Table 2.2. A list of the UO_2 thermal conductivity models. The formulation of each model is provided along with the reported applicability range. Maxwell's relation (Equation 2.4) is applied for the porosity correction unless reported otherwise. The units of the state variables are as follows: k(W/m/K), T_K (K), T_C (°C), p (-), Bu (MWd/kgU), B (MWd/kg urania), β (at.%), and gd (weight fraction).

Formulation	Applicability
Fink–Lucuta model (Fink, 2000; Lucuta et al., 1996)	
$k_{95} = \frac{100}{7.5408+17.692t+3.6142t^2} + \frac{6400}{t^{5/2}} \exp\left(-\frac{16.35}{t}\right)$ with $t = T_K/1000$ Fink (2000)	
$k = \kappa_{1d}\kappa_{1p}\kappa_{2p}\kappa_{3x}\kappa_{4r}k_{95}$ Lucuta et al. (1996)	
$\kappa_{1d} = \left(1.09\beta^{-3.265} + 0.0643\sqrt{T_K/\beta}\right) \arctan\left(\frac{1}{1.09\beta^{-3.265}+0.0643\sqrt{T_K/\beta}}\right)$	
$\kappa_{1p} = 1 + \frac{0.019\beta}{(3-0.019\beta)} \frac{1}{1+\exp\left(\frac{1200-T_K}{100}\right)}$	
$\kappa_{2p} = 1.07895\left(\frac{1-p}{1+0.5p}\right)$ Equation 2.4; $\kappa_{3x} = 1$; $\kappa_{4r} = 1 - \frac{0.2}{1+\exp\left(\frac{T_K-900}{80}\right)}$	
Halden model (Lanning et al., 2005)	
	T in [300 K, 3000 K]
$k_{95} = k_{ph} + k_{el}$	Bu in [0, 62 GWd/MTU]
$k_{ph} = \frac{1}{0.1148+1.1599(gd+x)+0.0040B+2.475\times10^{-4}(1-0.00333B)\min(1650,T_c)}$	Pu in [0, 7 wt.%]
$k_{el} = 0.0132\exp(0.00188T_c)$	TD in [92%, 97%]
Modified NFI model (Lanning et al., 2005)	
$k_{95} = k_{ph} + k_{el}$,	T in [300 K, 3000 K]
$k_{ph} = \frac{1}{0.0452+1.1599gd+2.46\times10^{-4}T+0.00187Bu+\frac{0.038Bu^{0.28}[1-0.9\exp(-0.04Bu)]}{(1+396\exp(-6380/T))}}$,	Bu in [0, 62 GWd/MTU]
	TD in [92%, 97%]
$k_{el} = \frac{3.5\times10^9}{T^2}\exp(-\frac{16361}{T})$	Gd in [0, 10 wt.%]
NFIR model (Marion, 2006; Lyon, 2015)	
$k_{95} = (1-F)k_{start} + Fk_{end} + k_{el}$	
$F = 0.5\left(1+\tanh\left(\frac{T_c-900}{150}\right)\right)$,	
$k_{start} = \frac{1}{term_0+6.14\times10^{-3}Bu-1.4\times10^{-5}Bu^2+\{2.5\times10^{-4}\exp(-1.268763gd)-1.81\times10^{-6}Bu\}T_c}$,	
$k_{end} = \frac{1}{term_0+2.6\times10^{-3}Bu+\{2.5\times10^{-4}\exp(-1.268763gd)-2.7\times10^{-7}Bu\}T_c}$	
$k_{el} = 0.0132\exp(0.00188T_c)$,	
$term_0 = \begin{cases} 9.592\times10^{-2}, & gd = 0 \\ gdir\cdot gdfac, & gd \neq 0 \end{cases}$	
$gdir = 0.1197\tanh(1\times10^2 gd)^{0.1} + 1.214167gd + 5.40625gd^2 - 51.82292gd^3$	
$gdfac = 0.65227273 + 2.7273gd - 2.25gd\tanh(1\times10^{-5}Bu)$	
The porosity correction multiplier is: $\left(\frac{1.0-p[2.58-5.8\times10^{-4}T_C]}{1.0-0.05[2.58-5.8\times10^{-4}T_C]}\right)$	

Table 2.3. A list of the UO_2 thermal conductivity models that are valid up to 100 GWd/t. The formulation of each model is provided along with the reported applicability range.

Formulation	Applicability
Ronchi model (Ronchi et al., 2004)	
$k_{phonon} = \frac{1}{A(T_{irr}, T_{ann}, bu) + B(T_{irr}, T_{ann}, bu)T}$	
$A(T_{irr}, T_{ann}, bu) = \delta A + \Gamma(bu, GIS) + 0.046$	
$\delta A = \delta A_{Self}(T_m, bu) + \delta A_{EOL}(T_m, bu)$ with $T_m = \max(T_{irr}, T_{ann})$	
$\delta A_{Self}(T_m, bu) = \begin{cases} 0.02F(bu) & \text{if } T_m \leq 900K \\ 0.02F(bu)\frac{1450-T_m}{1450-900} & \text{if } 1450K > T_m > 900K \\ 0 & \text{if } T_m \geq 1450K. \end{cases}$	
$\delta A_{EOL}(T_m, bu) = \frac{bu}{850}\left[\frac{1}{1+\exp\left(\frac{T_m-950}{25}\right)} + \frac{1}{1+\exp\left(\frac{T_m-1300}{35}\right)} - 0.0525\right]$	
$F(bu) = \frac{1}{1+\exp\left(\frac{20-bu}{6}\right)} - 0.015267$	
$\Gamma(bu, GIS) = 9.02 \times 10^{-4} bu GIS + 1.74 \times 10^{-3} bu + 7.51 \times 10^{-3}$	up to 100 GWd/t
$GIS = \frac{1-0.9IRIM}{\left[1+\exp\left(\frac{T_{irr}-1350}{200}\right)\right]\left[1+\exp\left(\frac{T_{ann}-1350}{200}\right)\right]}$ and $IRIM = \frac{1}{\left[1+\exp\left(\frac{T_{irr}-950}{30}\right)\right]\left[1+\exp\left(\frac{73-bu}{2}\right)\right]}$	
$B(T_{irr}, T_{ann}, bu) = B_0 + (B_1 - B_0)\left(1 - \frac{\delta B}{6.5\times10^{-5}}\right)$	
$B_0 = -1.65 \times 10^{-6} bu + 2.55 \times 10^{-4} - 3.6 \times 10^{-5} IRIM$	
$B_1 = 4.2 \times 10^{-7} bu + 2.75 \times 10^{-4}$	
$\delta B = F(bu)\delta B_{EOL}(T_m, bu)$	
$\delta B_{EOL}(T_m, bu) = \frac{bu}{34}\left[\frac{4.0\times10^{-5}}{1+\exp\left(\frac{T_m-950}{25}\right)} + \frac{2.5\times10^{-5}}{1+\exp\left(\frac{T_m-1300}{35}\right)}\right]$	
Staicu model (Staicu et al., 2014)	
$k_{phonon} = \frac{1}{A(T_{irr}, T_{ann}, bu) + B(T_{irr}, T_{ann}, bu)T}$	
$A(T_{irr}, T_{ann}, bu) = \delta A + \Gamma(bu, GIS) + \begin{cases} 0.092623 & \text{for } gd = 0 \\ 0.0524 + 0.3079 \times 10^{-2} gd + 12.2031 \times 10^{-4} gd^2 & \text{for } gd \neq 0 \end{cases}$	
$\delta A = \delta A_{Self}(T_m, bu) + \delta A_{EOL}(T_m, bu)$ with $T_m = \max(T_{irr}, T_{ann})$	
$\delta A_{Self}(T_m, bu) = \begin{cases} 0.02F(bu) & \text{if } T_m \leq 900K \\ 0.02F(bu)\frac{1450-T_m}{1450-900} & \text{if } 1450K > T_m > 900K \\ 0 & \text{if } T_m \geq 1450K. \end{cases}$	
$\delta A_{EOL}(T_m, bu) = \frac{bu}{850}\left[\frac{1}{1+\exp\left(\frac{T_m-950}{25}\right)} + \frac{1}{1+\exp\left(\frac{T_m-1300}{35}\right)} - 0.0525\right]$	
$F(bu) = \frac{1}{1+\exp\left(\frac{20-bu}{6}\right)} - 0.03444$	
$\Gamma(bu, GIS) = 9.02 \times 10^{-4} bu GIS + 1.74 \times 10^{-3} bu + 7.51 \times 10^{-3}$	up to 100 GWd/t
$GIS = \frac{1-0.9IRIM}{\left[1+\exp\left(\frac{T_{irr}-1350}{200}\right)\right]\left[1+\exp\left(\frac{T_{ann}-1350}{200}\right)\right]}$ and $IRIM = \frac{1}{\left[1+\exp\left(\frac{T_{irr}-950}{30}\right)\right]\left[1+\exp\left(\frac{73-bu}{2}\right)\right]}$	
$B(T_{irr}, T_{ann}, bu) = B_0 + (B_1 - B_0)\left(1 - \frac{\delta B}{6.5\times10^{-5}}\right)$	
$B_0 = -1.65 \times 10^{-6} bu + 2.55 \times 10^{-4} - 3.6 \times 10^{-5} IRIM$	
$B_1 = 4.2 \times 10^{-7} bu + \begin{cases} 2.217 \times 10^{-4} & \text{for } gd = 0 \\ 2.553 \times 10^{-4} + 8.606 \times 10^{-6} gd - 0.0154 \times 10^{-4} gd^2 & \text{for } gd \neq 0 \end{cases}$	
$\delta B = F(bu)\delta B_{EOL}(T_m, bu)$	
$\delta B_{EOL}(T_m, bu) = \frac{bu}{34}\left[\frac{4.0\times10^{-5}}{1+\exp\left(\frac{T_m-950}{25}\right)} + \frac{2.5\times10^{-5}}{1+\exp\left(\frac{T_m-1300}{35}\right)}\right]$	

$\boldsymbol{\theta} = \{\theta_i\}_{i=1}^n = \{\theta_1, \theta_2, \ldots, \theta_n\}$ and aimed to find their optimum values that represent the data well. In this study, we parametrize one of the existing thermal conductivity models listed in Table 2.2 and calibrate it to determine the asscoiated uncertainties because their uncertainties are not reported in the relevant literature.

The thermal conductivity of nuclear fuels is given as $k_{95} = k_{ph} + k_{el}$ in terms of the phonon-phonon interaction component, k_{ph}, and the electronic component, k_{el}. The latter term is temperature-dependent and can be generalized to the following mathematical form given in Equation 2.5 (see the models given in Table 2.2). For example, one can write the electronic component of the Halden model using Equation 2.5 with $\beta = \{0.0132, 0.0, 0.00188, 1.0\}$. Similarly, Equation 2.5 with $\beta = \{3.5 \times 10^9, -2, -16361, -1\}$ for the Modified NFI model where β_2 and β_4 are kept constant (or fixed) in the uncertainty propagation.

Form 2.1: Generalized mathematical form for k_{el}

To generalize the selection of the mathematical form for the electronic component of k_{95}, we parameterize k_{el} in the following form:

$$k_{el} = \beta_1 T^{\beta_2} \exp\left(\beta_3 T^{\beta_4}\right) \tag{2.5}$$

where $\{\beta_i\}_{i=1}^m = \{\beta_1, \beta_2, \ldots, \beta_m\}$ for $m = 4$.

Let us consider the parametrization of the Modified NFI model as an example (see Table 2.2). The parametrization is different between each model for its k_{ph} component; therefore, it is difficult to generalize the mathematical form how it is done for k_{el} component. The parametrized k_{ph} component of the Modified NFI model is given by Equation 2.6. As mentioned previously, Equation 2.5 with $\beta = \{3.5 \times 10^9, -2, -16361, -1\}$ applies for the Modified NFI model.

Form 2.2: Generalized mathematical form for k_{ph} of the Modified NFI model

$$k_{ph} = \frac{1}{\theta_1 + \theta_2 gd + \theta_3 T + \theta_4 Bu + \frac{\theta_5 Bu^{\theta_6}[1+\theta_7 \exp(\theta_8 Bu)]}{1+\theta_9 \exp\left(\frac{\theta_{10}}{T}\right)}} \tag{2.6}$$

where the coefficient parameters are $\{\theta_i\}_{i=1}^n = \{\theta_1, \theta_2, \ldots, \theta_n\}$ for $n = 10$, according to the above relation. The initial model parameters are used from its original form given in Table 2.2 as: $\boldsymbol{\theta}_{\text{initial}} = \{0.0452, 1.1599, 2.46 \times 10^{-4}, 0.00187, 0.038, 0.28, -0.9, -0.04, 396.0, -6380.0\}$.

2.3.2 Calibration Results & Discussion

From the calibration, we estimated a new set of numerical values of the parameters $\boldsymbol{\theta}$ and $\boldsymbol{\beta}$ for the parametrized Modified NFI model, which are provided in Figure 2.2. The initial parameters are represented by orange vertical lines. Two calibration techniques (the OLS and bootstrapping) are employed, which are the frequentist methods (Porter, 2018). The OLS method is represented by blue shaded distributions, while the bootstrapping is shown with the green shaded distributions in Figure 2.2 for each parameter. The calibration results are given in terms of means and standard deviations. They are propagated as $\theta_i \sim \mathcal{N}(\mu_i, \sigma_i)$

(i.e., normal distributions) for each parameter in the uncertainty propagation study. Additionally, the error associated with the mathematical model is also obtained from the calibration, which is also provided in Figure 2.2. A further discussion related to the uncertainty propagation is provided in Section 2.4.

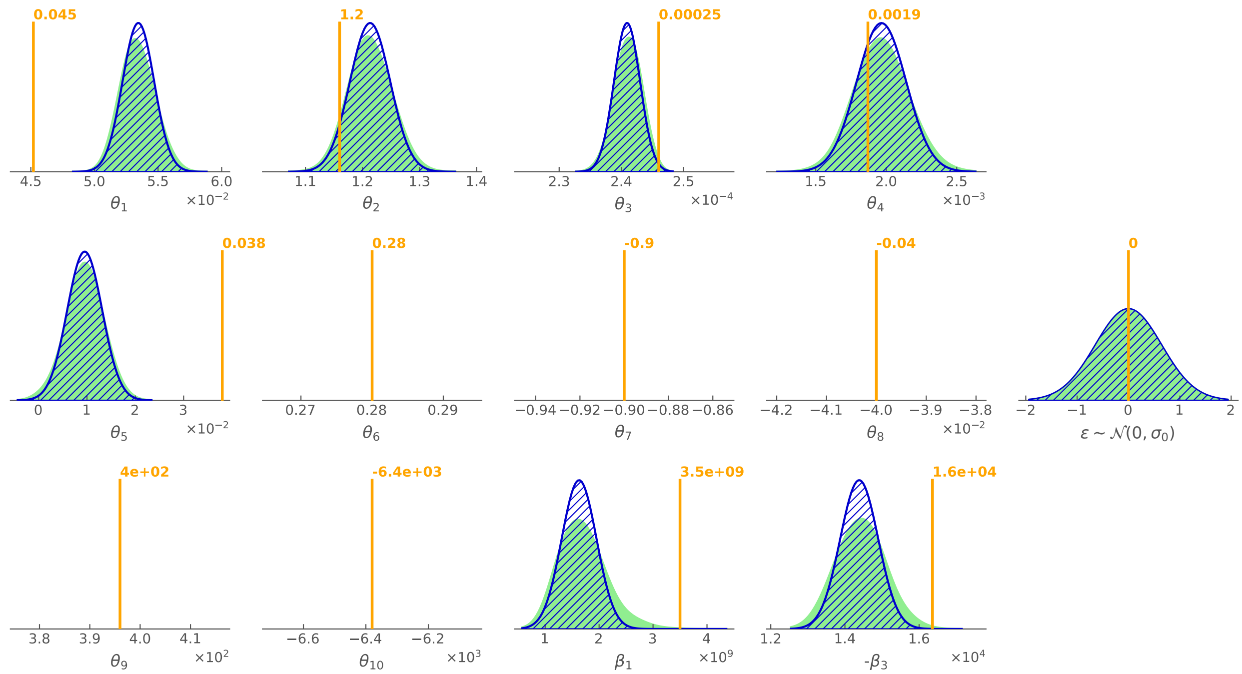
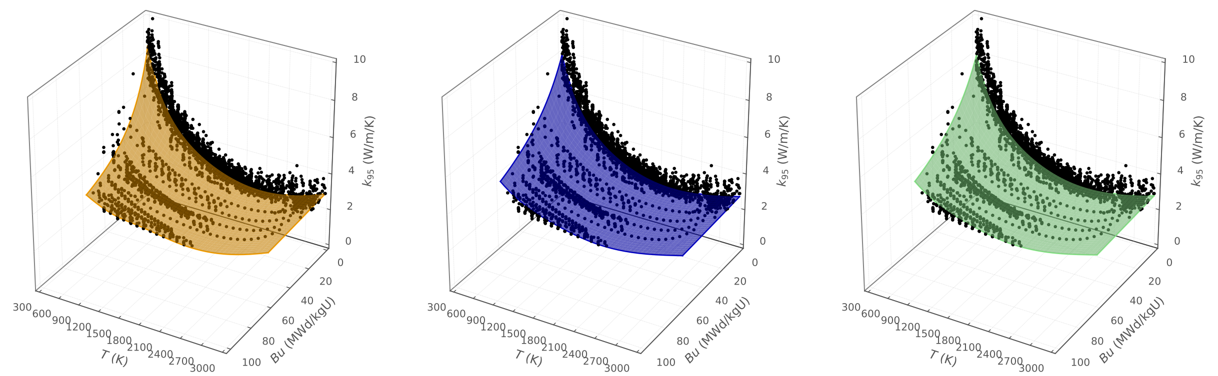


Figure 2.2. Marginal densities using OLS (*blue shaded distributions*) and bootstrapping (*green shaded regions*) methods for the estimated model coefficients and the observed error, ϵ. The initial model coefficients are represented by orange vertical lines with stated numerical values for each quantity of interest (QoI). Note that parameters are kept constant for cases where the marginal densities are not shown. Statistics are tabulated for the estimated model coefficients below.

OLS		θ_1	θ_2	θ_3	θ_4	θ_5	θ_6	
	Initial	0.0452	1.1599	2.46×10^{-4}	0.00187	0.038	0.28	
	Mean, μ	5.3451×10^{-2}	1.2134	2.4091×10^{-4}	1.9660×10^{-3}	9.5253×10^{-3}	`(fixed)`	
	Std, σ	1.2436×10^{-3}	0.0354	2.1005×10^{-6}	1.7547×10^{-4}	3.6230×10^{-3}		
		θ_7	θ_8	θ_9	θ_{10}	β_1	β_3	ϵ
	Initial	0.9	0.04	396.0	6380.0	3.5×10^9	16361	
	Mean, μ	`(fixed)`	`(fixed)`	`(fixed)`	`(fixed)`	1.6291×10^9	14385	0.0000
	Std, σ					3.2279×10^8	512.11	0.6469

Figure 2.3 shows the thermal conductivity predictions as a function of burnup and temperature at 95% TD using the original Modified NFI model and its recalibrated model from Figure 2.2. At zero burnup, all models behave similarly; however, recalibrated models yield relatively larger thermal conductivity estimates as the burnup increases. It is obvious that the calibration process is strictly dependent on the data and assumptions considered during the calibration (e.g., temperature range of interest, model function form); therefore, the validity of each calibrated model will only be valid under those assumptions and ranges of

data used. It is important to report and incorporate the associated uncertainties while defining the safety margins. Learning from the uncertainties is critical to establish confidence on the SRQ.



(a) Initial (original model) **(b)** OLS **(c)** Bootstrapping

Figure 2.3. Comparison of the model predictions (*surface plot*) and the experimental data (*markers*) for the stoichiometric UO_2 thermal conductivity at 95%TD. Models are presented up to the reported values of their applicability ranges. The experimental data are presented as a reference.

2.4 Uncertainty Propagation

In this study, only the parameter uncertainty is considered, and any uncertainty in the state variables is neglected, such as uncertainties in temperature, burnup, etc., which are referred to as model input parameters. A statistical black-box uncertainty propagation method is employed with 59 samples[3] using the stochastic tools of MOOSE being developed at INL. The toolkit contains algorithms for uncertainty quantification with sampling. We employed the latin hypercube method to sample the distributions in the estimation of parameter uncertainty. The input for the latin hypercube sampling is shown in Listing 2.1. Figure 2.4 outlines the uncertainty propagation procedure following the calibration process. The model parameters are randomly sampled as marginal normal distributions (determined from the calibration in the previous section) where the correlation between parameters is not treated. MOOSE simulations are performed for each data set by propagating the uncertainties of the model parameters and the observed error, $\epsilon \sim \mathcal{N}(0, \hat{\sigma}_{obs})$, in the computational model as

$$y_i = f(x_i, \hat{\boldsymbol{\theta}}) + \epsilon_i \tag{2.7}$$

[3]A statistical black box uncertainty propagation method is used with a sample size of 59, which is the required number of code runs for the upper 95% percentile (Wilks, 1941). The margin to licensing criteria is of primary interest for regulatory purposes; therefore, the one-sided tolerance limit can be applied for a 95/95 percentile with 59 calculations (IAEA, 2008; Porter, 2019). A larger sample size will reduce statistical errors, yet it would increase computational time. The one-sided tolerance limit was sufficient for this analysis since the quantity of interest was the fuel centerline temperature, which is supposed to be below the fuel melting temperature for regulatory purposes. The NRC's safety limit for the peak fuel centerline temperature is 3,077 K, which is not exceeded by the 95% percentile in the uncertainty quantification step (Toptan et al., 2018; Toptan, 2019).

where $f(x_i, \hat{\boldsymbol{\theta}})$ is the computational model with its estimated model parameters $\hat{\boldsymbol{\theta}}$ from the calibration.

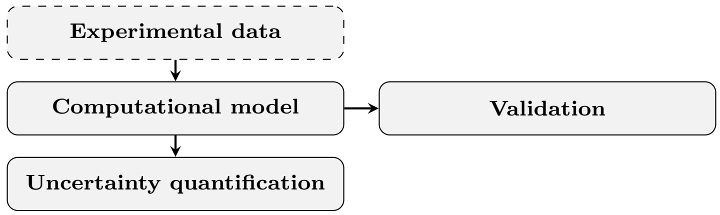
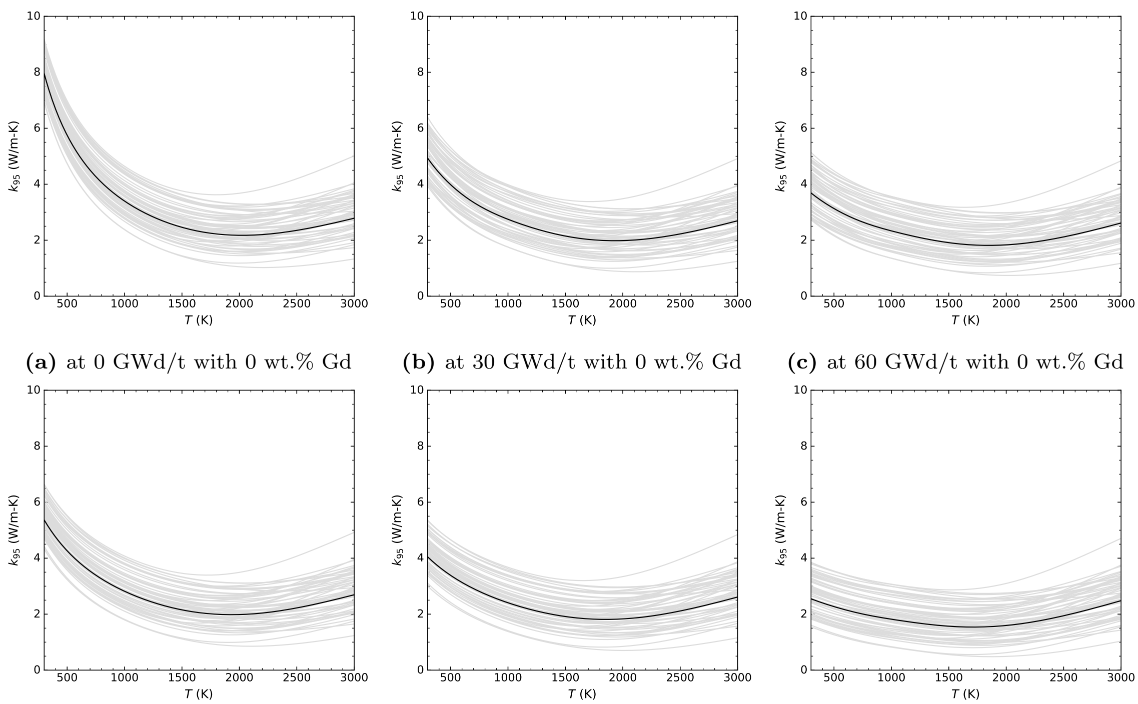


Figure 2.4. Schematic illustration of the analysis including model optimization and uncertainty quantification to estimate the uncertainty of the computational model, regenerated from Toptan et al. (2019b).

See Figure 2.5 for an example of how the model form uncertainties are propagated through the computational model with uncertainties obtained from the OLS method. There is a considerable scatter in the experimental data for UO_2 (see Figure 2.3), which is translated into the mathematical model with the propagated model form uncertainties (see Figure 2.5). The uncertainty on the thermal conductivity is larger in Figure 2.5 as the burnup and gadolinia concentrations increase, which can result from insufficient data at these conditions (i.e., at nonzero burnup and gadolinia) and/or insufficient description of the effects with the selected mathematical form.



(a) at 0 GWd/t with 0 wt.% Gd **(b)** at 30 GWd/t with 0 wt.% Gd **(c)** at 60 GWd/t with 0 wt.% Gd

(d) at 0 GWd/t with 5 wt.% Gd **(e)** at 0 GWd/t with 10 wt.% Gd **(f)** at 60 GWd/t with 10 wt.% Gd

Figure 2.5. The propagated uncertainties through Equation 2.7 using uncertainties from the OLS method at various burnup and gadolinia concentrations.

Listing 2.1. MOOSE latin hypercube sampling example.

```
[StochasticTools]
[]

[Distributions]
  [theta1]
    type = Normal
    mean = 0.053451
    standard_deviation = 0.0012436
  []
  [theta2]
    type = Normal
    mean = 1.2134
    standard_deviation = 0.0354
  []
  [theta3]
    type = Normal
    mean = 2.4091e-4
    standard_deviation = 2.1005e-6
  []
  [theta4]
    type = Normal
    mean = 1.9660e-3
    standard_deviation = 1.7547e-4
  []
  [theta5]
    type = Normal
    mean = 9.5253e-3
    standard_deviation = 3.6230e-3
  []
  [beta1]
    type = Normal
    mean = 1.6291e9
    standard_deviation = 3.2279e8
  []
  [beta3]
    type = Normal
    mean = 14385
    standard_deviation = 512.11
  []
  [obs_error]
    type = Normal
    mean = 0.0
    standard_deviation = 0.6469
  []
[]

[Samplers]
  [sample]
    type = LatinHypercube
    num_rows = 59 # sample size
    distributions = 'theta1   theta2   theta3   theta4   theta5   beta1   beta3   obs_error'
    upper_limits  = '0.999    0.999    0.999    0.999    0.999    0.999    0.999    0.999'
    lower_limits  = '0.001    0.001    0.001    0.001    0.001    0.001    0.001    0.001'
    num_bins      = '7    7    7    7    7    7    7    7'
    execute_on = 'initial timestep_end'
  []
[]

[VectorPostprocessors]
  [data]
    type = SamplerData
    sampler = sample
    execute_on = 'initial timestep_end'
  []
[]

[Outputs]
  execute_on = 'INITIAL TIMESTEP_END'
  csv = true
[]
```

3. Evaluation of Porosity Correction Methods

This chapter focuses on the evaluation of the porosity correction methods that are applied to the composite material with the presence of secondary dispersions in the continuous material. In HBS applications, pores are considered to be filled with xenon (i.e., a conducting medium) and spherical in shape. Section 3.1 describes the characteristics of pores generated due to the HBS formation and the model procedure available in the code at present. The heat transfer characteristics of the continuous material (the fuel in this case) are impacted or enhanced based on the condition of porosity characteristics (e.g., thermal conductivity, shape, volume fraction). In the previous work (Toptan et al., 2020a), two analytical expressions were implemented into the code based on the common use in the literature for nuclear applications. The methods are outlined in Section 3.2.

3.1 Background

Quantitative image analysis is employed by the researchers (Cappia, 2017; Ronchi et al., 2004) to characterize the microstructure of composite materials, particularly the investigation of fuel pore features, including fractional area, pore shape, and distribution. The advantage of the image processing technique is that its nondestructive and can be applied at various sample locations, as compared to the immersion density measurements in which an average value of the porosity in the whole pellet is obtained. Therefore, the local distribution of the porosity along the pellet can be obtained using the image processing analyses. The quantities acquired from the image processing analyses are calculated in terms of the (either number- or volume-weighted) mean diameters. Details of the image acquisition and processing can be found in (Cappia, 2017, pp. 23–35).

At present, the model in the code considers an empirical model to compute the HBS porosity as a function of burnup. Figure 3.2 shows a variation of the HBS pore growth with respect to the local burnup, which is the present approach in the code. The relation is obtained from the experimental observations. A physics-based mechanistic model is a more desirable approach instead of a surrogate model; however, this is a scope of future work to be supported by a lower-length scale modeling effort. The current engineering approach allows users to have a representative behavior until the availability of mechanistic (or physics-based) models and to prepare the code infrastructure for those models.

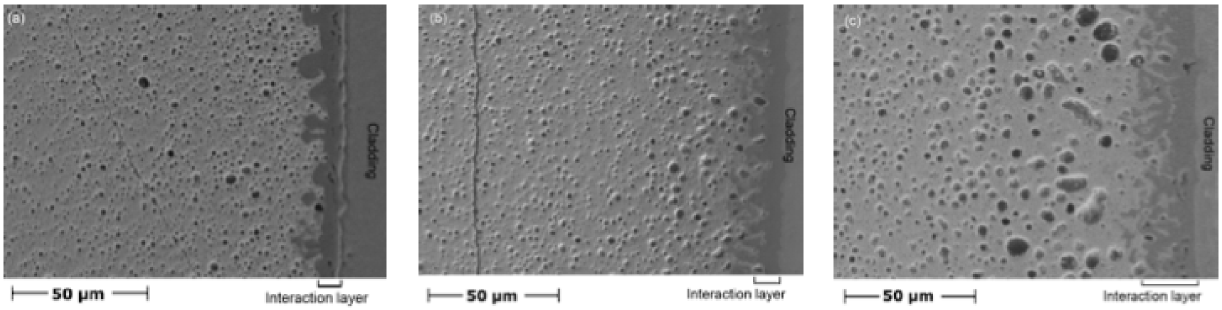


Figure 3.1. Scanning electron microscopy (SEM)-micrographs (500x magnified) of the peripheral region of the samples from (Cappia, 2017, Figure 3.23) at average burnup 67 GWd/tHM (*left*), 80 GWd/tHM (*middle*), and 100 GWd/tHM (*right*).

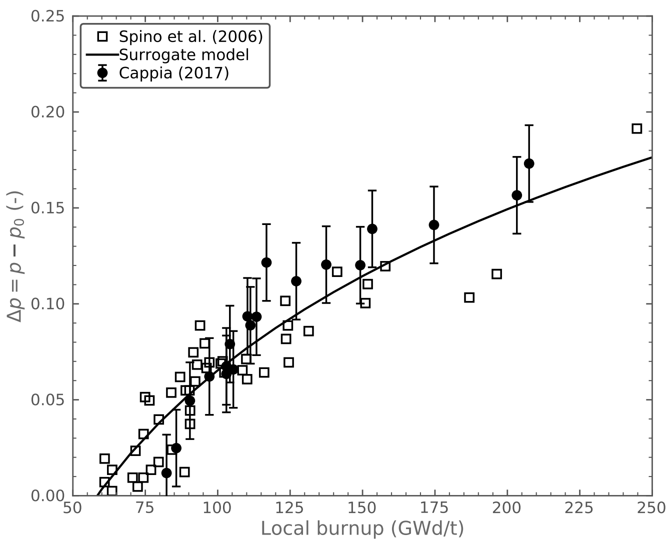


Figure 3.2. HBS porosity variation as a function of local burnup.

3.2 Analytical Models

In the previous study, two porosity correction methods applied to the thermal conductivity for the HBS conducting pores are implemented in `ThermalFuel` of BISON by Toptan et al. (2020a), which are: (1) the `KAMPF` model by Kämpf and Karsten (1970) and (2) the `LEE` model based on the work of D. A. G. Bruggeman (1935) and used by Lee et al. (1999). These models are two common models found in the literature to compute the corrected thermal conductivity for HBS applications, which are primarily based on the effective material property estimation when a secondary phase or precipitates are introduced into a continuous matrix. In this case, the continuous matrix is the fuel, and the secondary phase is the HBS conducting pores. In addition to the aforementioned two methods, the `Maxwell-Eucken` correlation is also implemented to the code. There is a great number of methods or analytical models available in the literature, which vary in principal based on the shape of secondary phases, distributions, consideration of the thermal interactions between the secondary phases, etc. The analytical expressions for an heterogeneous binary material are considered due to their simplicity.

The mathematical expressions of coded analytical models are tabulated in Table 3.1, along with the model behavior with respect to the volume fraction and the ratio of thermal conductivities of both phases. From the model behavior plots, there are two distinct regions for the effective thermal conductivity (ETC) due to the inclusion of (1) insulating pores ($\alpha < 1$), which reduce the ETC, and (2) conducting pores ($\alpha > 1$), which enhance the ETC. Both regions are separated by $\alpha = 1$ in which the thermal conductivities of both continuous and dispersed phases are the same (i.e., behaving as a homogeneous composite material). These interpretations from the model behavior are physical. For example, the nuclear fuel thermal conductivity is corrected for the nonconducting initial (or as-fabricated) porosity using the Maxwell-Eucken correlation (Maxwell, 1873; Eucken, 1940). With the assumption of the perfectly insulating pores ($k_2 \to 0$, acting as a vacuum), the relation reduces to

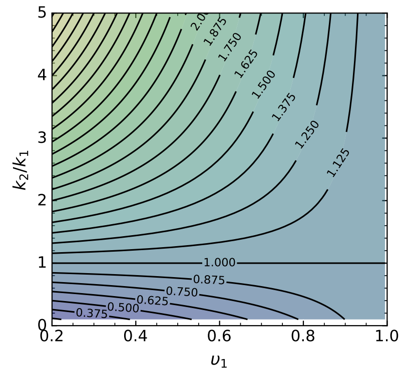
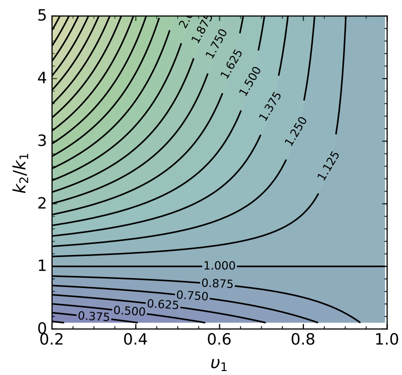
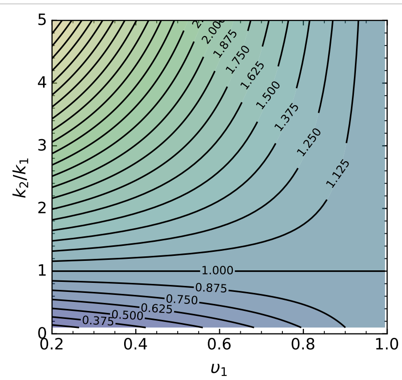
$$\frac{k_e}{k_1} = \lim_{k_2 \to 0} \left(\frac{2k_1 + k_2 - 2[k_1 - k_2]p}{2k_1 + k_2 + [k_1 - k_2]p} \right) \equiv \left(\frac{1-p}{1+0.5p} \right) \tag{3.1}$$

where k_1 is the thermal conductivity of continuous matrix, k_2 is the thermal conductivity of the spherical pores, and p is the porosity. When the above expression is written in terms of k_{95}, the relation reduces to Equation 2.4, noting that k_1 refers to the nonporous thermal conductivity of solid at 100% TD (i.e., $k_1 = k_{100}$).

Theoretical studies on the ETC of composite materials have been intensively performed in the literature (Progelhof et al., 1976; Carson, 2006) for other industrial applications that consider the macroscopic (or equivalent) description of thermal conductivity in a composite material with inclusions. As mentioned previously, three ETC models are available in the code. To evaluate and compare the differences between each model, thermal conductivity predictions are compared at various material conditions. Figure 3.3 shows the model predictions from the aforementioned analytical expressions of the ETC. It's obvious that the HBS pores will have either insulating or conducting characteristics based on the ratio of pore thermal conductivity to the fuel thermal conductivity (i.e., $\alpha = k_2/k_1$). The current assumption is that the pores are filled with xenon and behave as a dilute gas; therefore, its thermal conductivity is computed as a function of temperature. According to the current assumption, $k_2 < k_1$ will yield the insulating characteristics and reduce the ETC where most of the models locate in the vicinity of Equation 3.1. Once k_2 becomes relatively significant, as compared to k_1, the pores can enhance the ETC. This heavily depends on the overpressurization of bubbles because increasing pressure increases the thermal conductivity of xenon (see Figure 3.4).

Remarks The thermal conductivity of the dense inert gases can be computed as a summation of (1) the thermal conductivity of pure dilute gases based on the kinetic gas theory and (2) excess thermal conductivity that depends on the gas density estimated from the virial equation of the state at a given temperature and

Table 3.1. A list of correction methods applied to the thermal conductivity for conducting HBS pores. *Notation:* k_e is the effective (or equivalent) thermal conductivity, k_i is the thermal conductivity of i-th phase (1 for the continuous matrix, 2 for the dispersed phase), υ_1 is the volume fraction of the continuous phase ($\upsilon_1 = 1 - p$), and p is the porosity (or the volume of fraction of the dispersed phase, υ_2).
† Isolines of the contour plots represent the ratio k_e/k_1, and the contour plots are similarly color-coded for ease-of-comparison between each analytical expression.

Model (`hbs_porosity_correction`)	**Model behavior**†
MAXWELLEUCKEN (Maxwell, 1873; Eucken, 1940) $\frac{k_e}{k_1} = \frac{2k_1 + k_2 - 2(k_1 - k_2)p}{2k_1 + k_2 + (k_1 - k_2)p}$	
KAMPF (Kämpf and Karsten, 1970) $\frac{k_e}{k_1} = 1 - p^{2/3}\left(1 - \frac{1}{1 + p^{1/3}\left[k_1/k_2 - 1\right]}\right)$	
LEE (Lee et al., 2001; Schulz, 1981; Kleykamp, 1999) $k_e - (1-p)\left(\frac{k_1 - k_2}{k_1^{1/3}}\right)k_e^{1/3} - k_2 = 0$ see (Toptan et al., 2020b, Algorithm 1)	

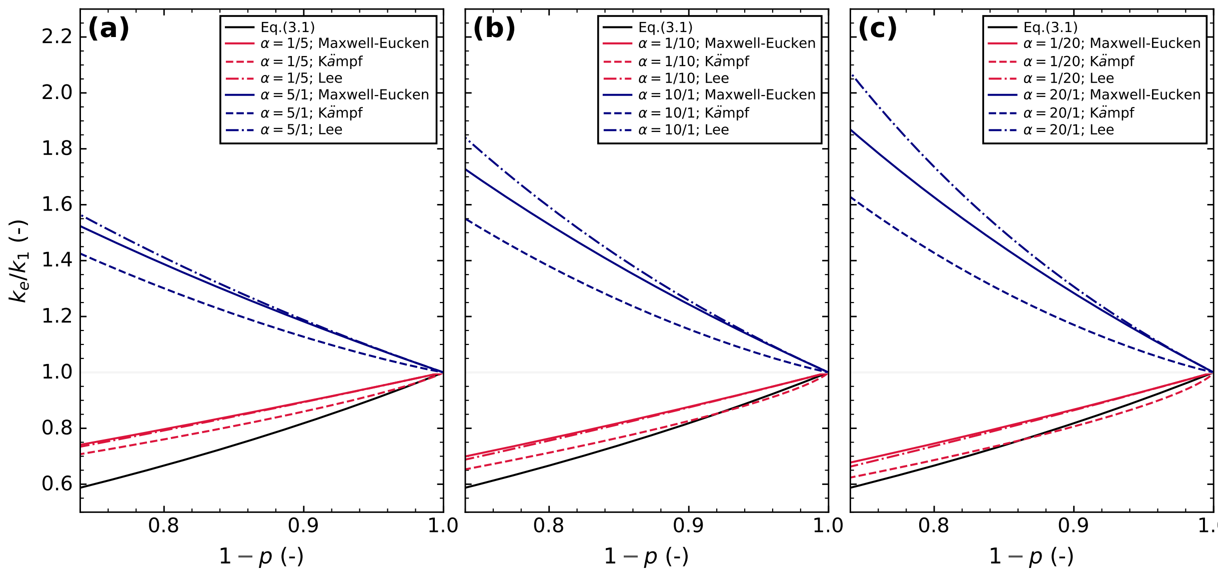
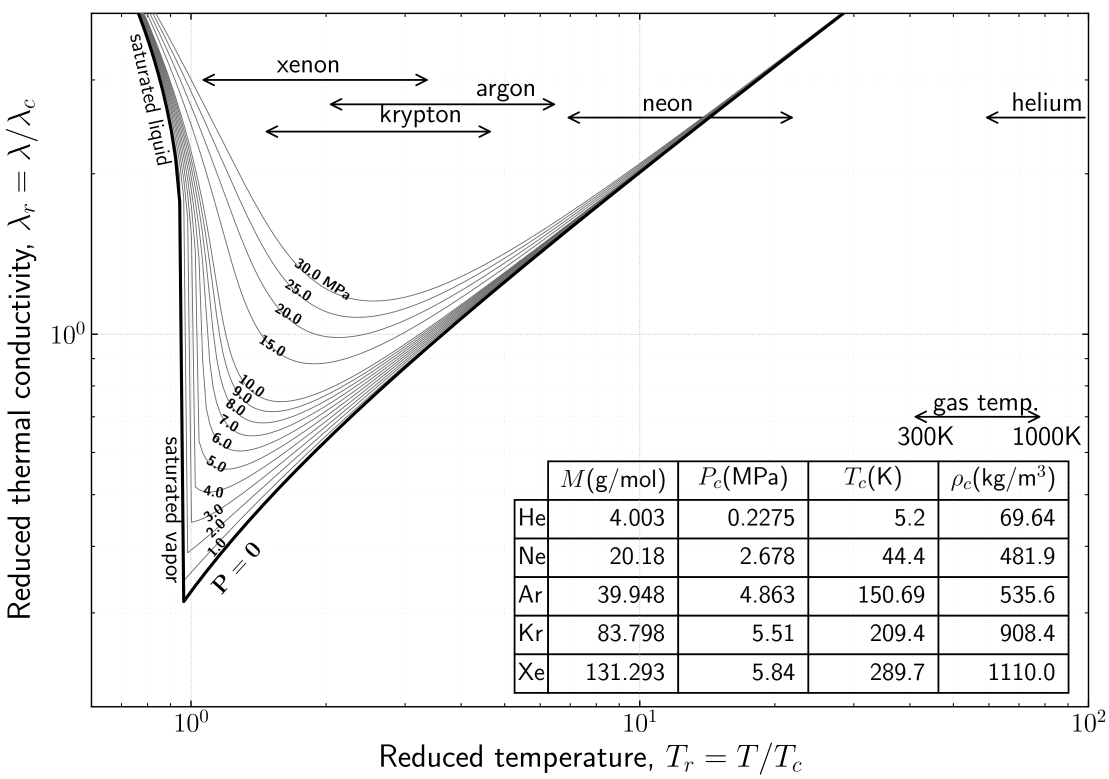


Figure 3.3. k_e/k_1 ratios with respect to the relative volume fraction of the continuous phase $(1-p)$ at various arbitrarily chosen ratios of thermal conductivities of the dispersed phase to the continuous phase for both insulating ($\alpha = k_2/k_1 < 1$) and conducting ($\alpha = k_2/k_1 > 1$) pores.

pressure. The ideal gas law for simple gases is $P/RT\hat{\rho} = 1$, where P is the pressure, R is the universal gas constant, T is the temperature, and $\hat{\rho}$ is the molar density. The virial equation of the state expands the right-hand side of this relation with temperature-dependent virial coefficients (see Toptan et al. (2019c) for more details). This model is made available in the code by Toptan et al. (2020b) for the gap conductance calculations to investigate the importance of rod internal pressure on the gas thermal conductivity.

Figure 3.4 shows the reduced state plot of thermal conductivity that is computed, according to the virial equation of state, with respect to the reduced temperature for the selected inert gases of interest. Each line corresponds to the thermal conductivity computed at a given gas pressure, and pressures are labeled on each line for its computed gas pressure. $P = 0$ corresponds to the dilute gas assumption, where the gas thermal conductivity is dependent solely on the temperature. This assumption seems valid for the helium; however, thermal conductivity of the fission gas products such as xenon and krypton are strongly impacted from the gas pressure. Even though the second and third virial coefficients are considered to be valid up to 30 MPa, it's clear that the gas thermal conductivity of xenon is highly impacted due to the gas pressure from the pressure beyond 30 MPa in the temperature range of [300 K, 1000 K].

A more mechanistic modeling of the gas thermal conductivity can be achieved coupling the gas pressure from the fission gas modeling and computing it according to the virial equation of state. Again, the necessity of this coupling holds on whether the dilute gas criterion is met or not. However, this is the scope of future work that should consider providing a more mechanistic modeling of the HBS pore growth from the fission gas modeling instead of the surrogate model, which would allow a better prediction of fission-gas-



	M(g/mol)	P_c(MPa)	T_c(K)	ρ_c(kg/m^3)
He	4.003	0.2275	5.2	69.64
Ne	20.18	2.678	44.4	481.9
Ar	39.948	4.863	150.69	535.6
Kr	83.798	5.51	209.4	908.4
Xe	131.293	5.84	289.7	1110.0

Figure 3.4. The reduced state plot of thermal conductivity with respect to the reduced temperature for the inert gases of interest, from Toptan et al. (2019c). The gas characteristics of the selected inert gases are provided on the plot in terms of the molecular weight, pseudo-critical pressure, temperature, and density.

induced fragmentation that occurs at a given bubble overpressure, which depends on apparent gas pressure, hydrostatic pressure in the fuel, and capillary pressure of the cavity.

4. Material Model Coupling

In previous work (Toptan et al., 2020a), the details of the HBS volume fraction model and initial HBS thermal conductivity models were presented. However, the interconnection between these models was not present. This connection is particularly important for thermal conductivity modeling, which will affect the temperature predictions throughout the fuel. These modified temperatures feed directly into the fine fragmentation (pulverization) threshold used in LOCA simulations, which may lead to increased amounts of fuel being susceptible to dispersal following a cladding breach.

Conceptually, the approach taken is illustrated in Figure 4.1. In the finite element method (FEM) used in BISON, a region of material is represented by a quadrature point. This quadrature point represents a relatively large area on the microstructural level. Therefore, it is possible that the region represented by a quadrature point is not fully restructured into the HBS. This is where the HBS volume fraction comes in. In regions that have partially restructured, a weighted approach to material properties, such as the thermal conductivity, is taken:

$$k_{eff} = (1.0 - \alpha_{HBS})\, k_{unrestructured} + \alpha_{HBS} k_{restructured} \tag{4.1}$$

where k_{eff} if the effective thermal conductivity (W/m-K), α_{HBS} is the volume fraction of restructured fuel (dimensionless), and $k_{unrestructured}$ and $k_{restructured}$ are the thermal conductivity of nonrestructured and restructured fuel, respectively (W/m-K). $k_{unrestructured}$ is computed using one of the available correlations in BISON (e.g., `FINK-LUCUTA` `NFIR`, `MODIFIED-NFI`, `HALDEN`, `STAICU`, `RONCHI`, `CALIBRATED`) without any HBS porosity correction methods applied. $k_{restructured}$ is computed from the same model as $k_{unrestructured}$ but with one of the porosity correction methods applied (see Chapter 3).

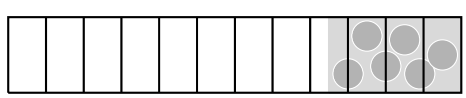


Figure 4.1. Schematic illustration of the approach applied to material coupling for the HBS volume fraction model (*not to scale*). Two regions exist in the grid: (1) fuel that has no reconstruction (left region) and (2) reconstructed fuel (right region, gray) with the presence of mono-size spherical pores. For the computational cell that lies on the boundary of both regions, the thermal conductivity is weighted based on the HBS volume fraction between two regions according to Equation 4.1.

The HBS volume fraction is computed by

$$\alpha_{HBS} = 1.0 - \exp\left(-1.52 \times 10^{-7} bu_{eff}^{3.54}\right) \tag{4.2}$$

where α_{HBS} (-) is the volume fraction of HBS and bu_{eff} (MWd/kg$_{\mathrm{U}}$) is the effective burnup, which is calculated through:

$$bu_{eff} = \int H\left(T - T_{th}\right) dbu \tag{4.3}$$

where H is the Heaviside step function, T is the absolute temperature, T_{th} is the threshold temperature (e.g., the considered threshold temperature is 1273.15 K), and bu is the burnup. A plot of α_{HBS} is presented in Figure 4.2 alongside the experimental data used for fitting.

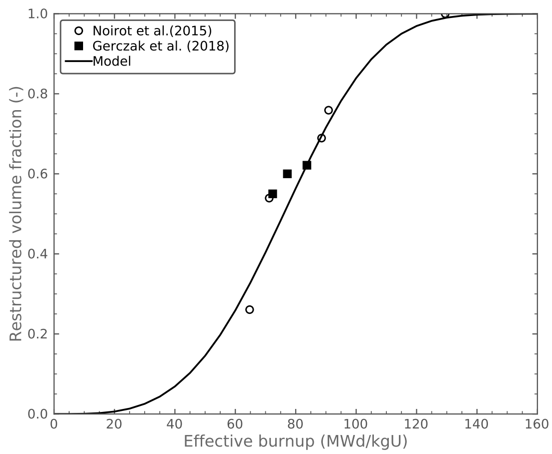


Figure 4.2. Volume fraction of HBS as a function of the effective burnup according to the model implemented in BISON and based on Barani et al. (2020). Experimental data derived from Gerczak et al. (2018); Noirot et al. (2015) in Barani et al. (2020) that was used for model fitting are also shown.

As previously mentioned, any changes to fine fragmentation (pulverization) predictions are obtained for free due to the threshold being based upon local temperature and burnup, as seen in Figure Figure 4.3.

4.1 Testing of the Coupling Methodology

To demonstrate the impact of the HBS formation model on the calculation of thermal conductivity, two studies have been completed: (1) regression testing and (2) a 10-pellet fuel rodlet example problem.

4.1.1 Regression testing

Regression and defect testing ensures that implemented code features are working as intended and are designed to capture any deviations in behavior due to future code changes. Here, two cases are revisited from Toptan et al. (2020a) where the HBS volume fraction was initially implemented to demonstrate how the

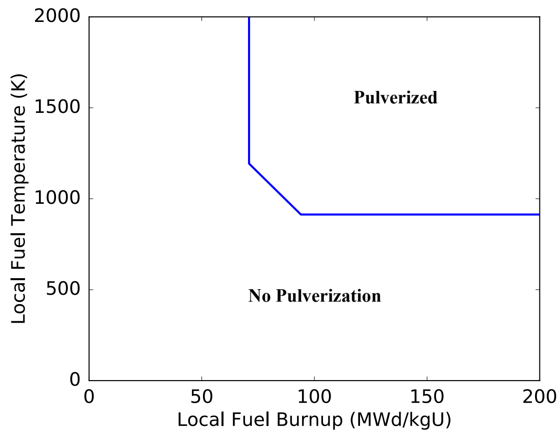


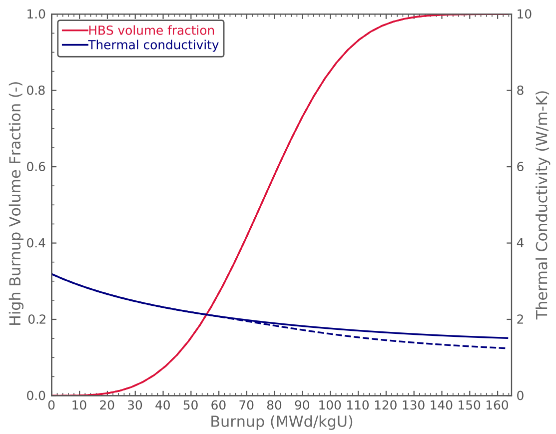
Figure 4.3. Local burnup and temperature dependent threshold to determine whether pulverization would occur. If the pressure on the exterior of the fuel exceeds 50 MPa, pulverization will be precluded even if it falls in the region deemed pulverized.

thermal conductivity is impacted by the formation of the HBS and the weighted-fraction approach employed to account for the limitations of the FEM method to capture all of the microstructural details. In brief, the two cases are as follows:

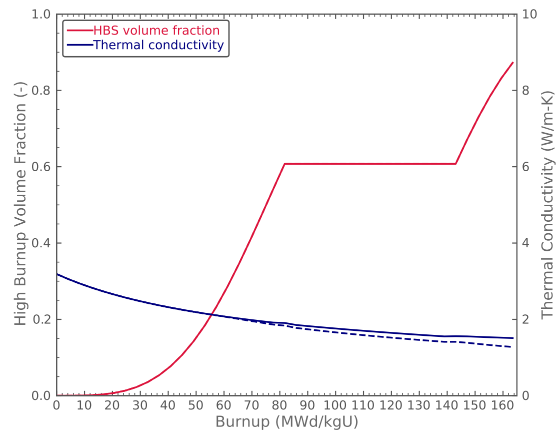
- **Test 1:** Irradiation at a constant temperature below the threshold temperature for effective burnup accumulation. In particular, the temperature is kept constant at 1173 K. The applied fission rate is constant at 2×10^{19} m^{-3}s^{-1}. The considered total irradiation time is 2×10^8 s $\approx$ 6.3 years. The expected results are: (i) a linearly increasing effective burnup that coincides with the burnup (Equation 4.3) and, correspondingly, (ii) a monotonically increasing HBS fraction according to Equation 4.2.

- **Test 2:** Irradiation at a varying temperature with periods below and above the threshold temperature. In particular, the temperature is kept below the threshold temperature of 1273.15 K for time $t < 1.00 \times 10^8$ s and $t > 1.75 \times 10^8$ s and above the threshold temperature for 1.00×10^8 s $< t < 1.75 \times 10^8$ s. The two transients consist of linear variations at a constant rate of 2×10^{-5} K/s between the reference low and high temperatures of 1173.15 K and 1373.15 K, respectively. As with Test 1, the fission rate is kept constant at 2×10^{19} m^{-3}s^{-1}, and the considered total irradiation time is 2×10^8 s $\approx$ 6.3 years. The expected results are: (i) an effective burnup that increases only during the periods with the temperature below the threshold and remains constant otherwise (Equation 4.3) and (ii) an HBS fraction that increases with an increasing effective burnup according to Equation 4.2.

The results of the two regression tests are shown in Figure 4.4. Solid lines represent the case where the HBS volume fraction model is not coupled into the thermal conductivity models (i.e., porosity correction methods are also not employed), whereas dashed lines represent full coupling and porosity correction models. In these regression tests, the `NFIR` thermal conductivity model is used with the `LEE` porosity correction model. For these prescribed temperature scenarios, noticeable differences in thermal conductivity due to coupling do not occur until an HBS volume fraction > 0.5. Percentage-wise, the differences between no and full coupling are significant (∼10%).



(a) Test 1



(b) Test 2

Figure 4.4. The HBS volume fraction and corresponding thermal conductivity for **(a)** constant and **(b)** varying temperature cases. Solid and dashed lines represent the cases of no and full coupling, respectively.

4.1.2 10-pellet rodlet analysis

The 10-pellet rodlet is the standard BISON example problem used to explore the impact of new modeling capabilities on a representative fuel rodlet geometry. The average linear heat rate supplied to the fuel is shown in Figure 4.5. Two higher power cycles are analyzed to achieve a relatively high burnup.

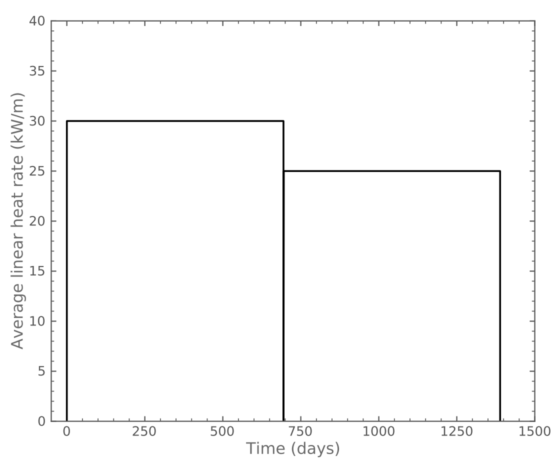


Figure 4.5. Representative two-cycle power history supplied to the fuel rodlet in the example rodlet analysis.

Simulations using all seven of the UO_2 thermal conductivity models available in BISON were completed.

The radial temperature, high burnup structure porosity, and thermal conductivity profiles at the point prior to shutdown at the end of the 2nd cycle are shown in Figure 4.6, along with the time history of the fuel centerline temperature. The solid lines indicate no coupling (i.e., no weighting due to HBS formation and no porosity correction), whereas the dashed lines show full coupling.

The radial temperature profile illustrates that, for all cases at the end of the second cycle, by including the full coupling temperature, predictions are always higher at the fuel centerline. The difference between no and full coupling depends upon the thermal conductivity model chosen. Surprisingly, the temperature differences at the pellet periphery where the HBS initially forms is small.

The radial profile of the high burnup structure porosity, which is computed based upon the surrogate model described in Chapter 3, shows porosity formation at all locations throughout the pellet when accounting for full coupling. While the amount of porosity formed is significantly higher at the pellet periphery, there is also some formation at the pellet center. This is because the surrogate porosity model is local burnup dependent and, with an average fuel rod burnup exceeding the fine fragmentation threshold, one could expect additional porosity to form even at the pellet center. When no coupling is employed, the porosity surrogate model is turned off, and the calculated HBS porosity is zero at all radial locations.

The radial thermal conductivity plots are as expected with the inclusion of full coupling degrading the thermal conductivity at all radial locations. The spread among the different thermal conductivity models is up to 30%. However, given the uncertainties in thermal conductivity, one cannot say any one model is better than the other. It is only possible to have a better understanding of the sources of uncertainty among the different models. This uncertainty propogates to the differences in radial temperature and maximum fuel centerline profiles.

The maximum fuel centerline as a function of burnup shows that contact between the fuel and cladding is achieved for all thermal conductivity models at around 10 MWd/kgU. Upon return to power in the second cycle, contact is immediately re-established. The influence of full coupling begins during the second cycle as the burnup begins to cause the local formation of porosity at the pellet center. The spread in fuel centerline temperatures among the different thermal conductivity models can be up to 200 K, which is well within the uncertainty associated with the thermal conductivity.

A final note highlights the fact that the `CALIBRATION`, `FINK-LUCUTA`, `MODIFIED-NFI`, and `HALDEN` models were not originally developed for high burnups ($\gtrsim$ 60 MWd/kgU), yet their predictions at these higher burnups are consistent with the models developed to be applicable at these higher burnups. The uncertainty (as shown in Chapter 2) is much higher at these burnups due to data limitations.

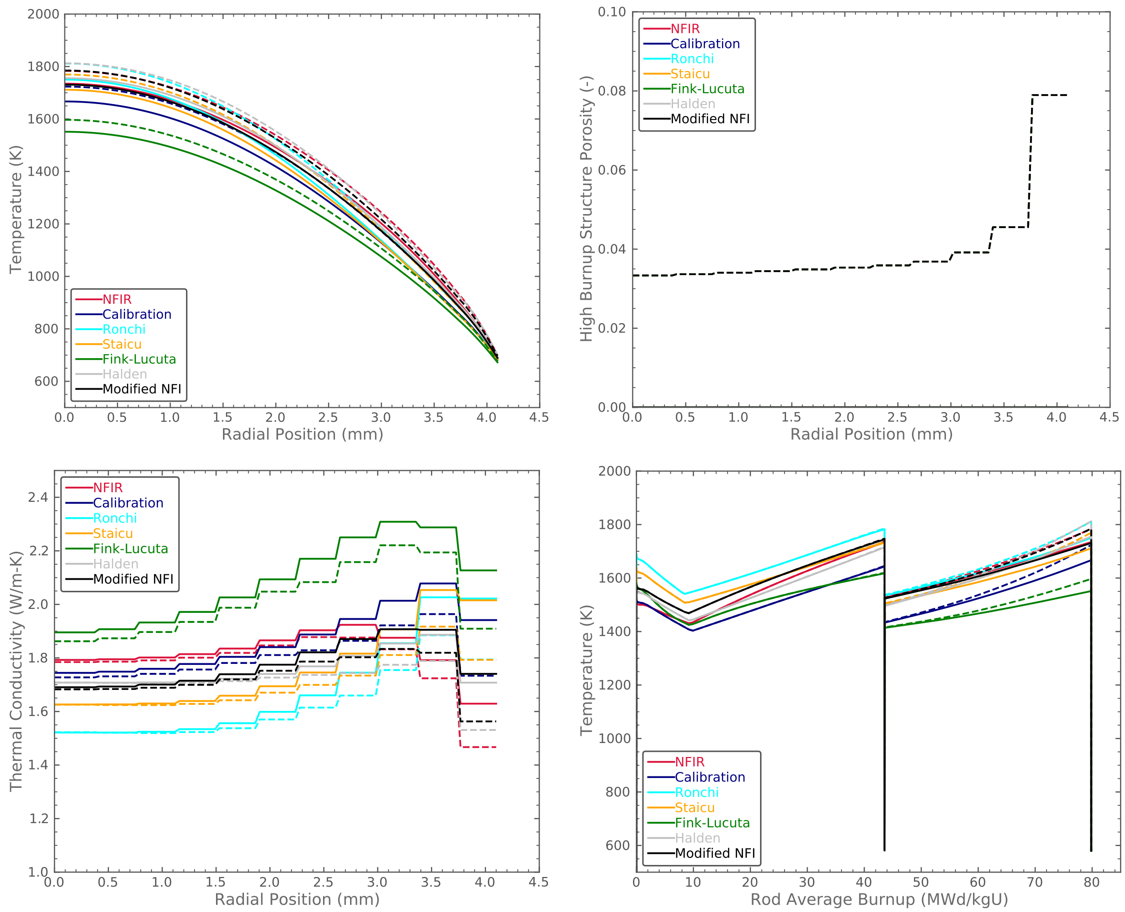


Figure 4.6. Radial profiles at the end of the simulation for **(a)** temperature, **(b)** HBS porosity, and **(c)** thermal conductivity. The maximum fuel centerline temperature, as a function of burnup, is given in **(d)**. Solid and dashed lines represent simulations without and with the porosity correction model, respectively.

5. Integral Effects Validation: Halden IFA-650.4, IFA-650.9, and IFA-650.14

Validation is the process of comparing model predictions to experimental measurements to determine the applicability of the model to real-world applications. Industry wants to push the average operational burnup limit from the current 62 MWd/kgU level to 68 MWd/kgU and potentially 75 MWd/kgU. Therefore, the integral rod experimental validation of fuel performance models is necessary. At present, limited integral rod data exist at these burnups, with the Studsvik (Flanagan and Askeljung, 2011; Puranen, 2013) and Halden (Fuketa et al., 2010) programs providing the majority of data available. In this chapter, we validate the newly added models for the three rods selected from the IFA-650 LOCA test series conducted at the Halden reactor in Norway. The tests investigated here include IFA-650.4, .9, and .14.

5.1 Experimental Measurements

In total, 15 tests have been completed as part of the IFA-650 LOCA test series. Each test was designed for a specific purpose by the varying operational conditions, preirradiation history, plenum size, and cladding type to explore the impact of these various phenomena on the behavior of the fuel rod during a LOCA. Prior to the writing of this report, Tests IFA-650.2, IFA-650.4, IFA-650.9, and IFA-650.10 were analyzed using BISON. The selection of these tests was primarily driven by the BISON team's participation in the Fuel Modelling in Accident Conditions (FUMAC) project (International Atomic Energy Agency (IAEA), 2019) as well as additional selections being made to validate the BISON axial relocation algorithm. In this report, a new case, IFA-650.14, was selected for three reasons: (1) the preirradiation achieved a sufficient burnup to use as the validation of the HBS formation and thermal conductivity models described in this report, (2) the rod experienced severe axial relocations of the fragmented fuel, and (3) the cladding did not rupture despite severe cladding strain. The analyses of IFA-650.4 and IFA-650.9 are also revisited in this report to evaluate the impact of including the coupling of the HBS formation model to thermal conductivity models and, consequently, the fine fragmentation threshold.

The IFA-650.4 test was the fourth test completed as part of the LOCA test series. The purpose of the test was to repeat the conditions of the IFA-650.3 test on a preirradiated fuel rod to assess the validity of existing LOCA safety criteria (Kekkonen, 2007). In particular, the experiment was designed in such a way to maximize the balloon size to promote fuel relocation and to assess the impacts on cladding temperature and oxidation. The average burnup of the fuel after the base irradiation was ~ 92 MWd/kgU.

Due to the high burnup of the preirradiated fuel, we observed severe fragmentation and axial relocation during the transient. After the conclusion of the experiment, we observed a large cladding balloon through gamma scans. The maximum measured internal pressure was ~ 7.1 MPa achieved around 265–270 seconds after blowdown occurred. Cladding rupture occurred at 366 seconds after blowdown.

The IFA-650.9 test was the ninth test completed as part of the LOCA test series. The purpose of this test was similar to IFA-650.4 and was actually used to clarify and confirm the behavior of significant fuel relocation that was observed in the previous test. The burnup of the fuel after the base irradiation was ~ 89.9 MWd/kgU. Cladding ballooning began $\sim$106 s after blowdown at a maximum pressure of ~ 7.33 MPa and the failure of the cladding occurred $\sim$133 s after blowdown at a cladding temperature of ~ 1083 K.

The IFA-650.14 test was the fourteenth test completed in the test series. This test focused on boiling-water reactor (BWR) irradiated fuel with a similar purpose to the IFA-650.4 and IFA-650.9 tests, to promote cladding ballooning to induce significant fuel relocation. The primary difference in transient characteristics was to have a small plenum to induce large balloons without cladding rupture. The burnup after the base irradiation was ~ 72 MWd/kgU. Cladding ballooning began $\sim$235 seconds after blowdown and the reactor was scrammed after the rod pressure dropped to 74% of its maximum value of 7.73 MPa.

The fabrication characteristics of the three specimens are provided in Table 5.1. The IFA-650.4 and IFA-650.9 rodlets were segmented from pressurized-water reactor (PWR) mother rods, with the cladding material consisting of a Zry-4 base with a 100 μm niobium-oxide liner to improve oxidation resistance. For both experiments, the refabricated rod was back-filled with a binary mixture of argon (95%) and helium (5%) at 4.0 MPa. Argon was chosen to simulate the effect of a low gap thermal conductivity due to fission gases. The rod plenum volume (i.e., free gas volume) was made relatively large in order to maintain stable pressure conditions until a cladding burst occurred. The total free gas volume was 21.5 cm^3 for IFA-650.4 and 21.5 cm^3 for IFA-650.9 and was practically all located outside the heated region (Kekkonen, 2007; du Chomont F., 2009).

The IFA-650.14 rodlet was segmented from a BWR mother rod with a Zry-2 cladding with an inner liner. For this experiment, the refabricated rod was back-filled with a binary mixture of argon (95%) and helium (5%) at 2.0 MPa. In this test, the rod plenum (i.e., free gas volume) was made extremely small to promote large cladding balloons without cladding rupture. The majority of the free volume (1.9 cm^3) was within the heated region (Tradotti, 2014).

These rodlets were located inside the IFA-650 test rig and were neutronically heated from the inside and externally heated using an electrical heater. The purpose of the heater was to simulate the effect of adjacent fuel rods within the core. The IFA-650.4 rodlet was instrumented with three thermocouples on the cladding exterior surface, a pressure transducer to measure the rod internal pressure, and a cladding elongation sensor. Two of the thermocouples were located 8 cm below the top of the fuel stack (at 180° from one another) and

Table 5.1. Design data of the IFA-650.4, IFA-650.9, and IFA-650.14 fuel rods.

	IFA-650.4	**IFA-650.9**	**IFA-650.14**
Fuel material	UO_2	UO_2	UO_2
Fuel density	95.2 %TD	95.0 %TD	96.0 %TD
^{235}U enrichment	3.5 wt%	3.25 wt%	3.71 wt%
Active fuel stack length	480 mm	480 mm	360 mm
Pellet inner diameter	0 mm	0 mm	0 mm
Pellet outer diameter	9.13 mm	9.13 mm	8.19 mm
Cladding material	Zry-4 (SRA)	Zry-4 (SRA)	Zry-2 (RXA)
Cladding thickness (incl. liner)	0.725 mm	0.725 mm	0.63 mm
Cladding outer diameter	10.75 mm	10.75 mm	9.62 mm
Diametrical gap	170 μm	170 μm	170 μm
Rod inner free volume (refab.)	21.5 cm^3	19 cm^3	1.9 cm^3
Rod filling gas (refab.)	Ar(95%):He(5%)	Ar(95%):He(5%)	Ar(95%):He(5%)
Initial rod inner pressure (refab.)	4.0 MPa	4.0 MPa	2.0 MPa

one was located in the plenum region 19 cm above the fuel stack. Additional temperature measurements were provided for the coolant at the inlet and outlets of the experimental apparatus. The IFA-650.9 rodlet was also instrumented with three thermocouples on the cladding surface, with one located 10 cm above the fuel bottom and two located 6.5 cm from the top of the fuel stack. A pressure transducer was also included inside the rodlet. The IFA-650.14 rodlet was instrumented with three cladding thermocouples, one 10 cm above the fuel bottom and two 6.0 cm from the top of the fuel stack. One of these upper thermocouples was determined to be faulty during the experiment. This rodlet also included a pressure transducer. As with IFA-650.4, both IFA-650.9 and IFA-650.14 included additional temperature measurements for the coolant at the inlet and outlets of the experimental apparatus.

Details of the Halden IFA-650 tests are well documented in Refs. (Kekkonen, 2007; du Chomont F., 2009; Tradotti, 2014). Each transient consists of five distinct phases: (1) preparatory (forced and natural circulation), (2) blowdown, (3) heat-up and hold at peak cladding temperature, (4) scram, and (5) the conclusion of the experiment. Depending upon the particular experiment, the duration and specific conditions the specimen undergoes during a phase may be different. We encourage the reader to read the appropriate documentation for a particular experiment if interested in more specific details.

5.2 BISON Model Settings

Since the rods analyzed in this work are used to validate both the latest developments on the HBS formation and high burnup thermal conductivity models as well as axial relocation models, BISON's `Layered1D` formulation was used to model the fuel rodlets because the axial relocation requires it in order to properly track fuel movement. In a `Layered1D` formulation, the fuel rodlet is modeled by a number of discrete axial layers. Each layer represents a single 1D generalized plane strain axisymmetric simulation. The thermomechanics are solved on each individual layer with global parameters, such as fission gas release, internal gas volume, and plenum pressure, communicated between the layers. Further details on the formulation can be found in Pitts et al. (2017). In these analyses, 30 axial layers were used to model the fuel and cladding with one additional cladding-only layer for the plenum region. Eleven `EDGE3` elements were used through the radius of the fuel, and five `EDGE3` elements were used through the cladding thickness.

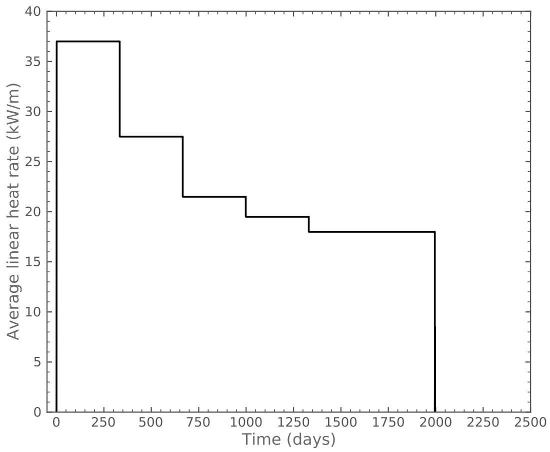
The base irradiation histories for the three rodlets are provided in Figure 5.1. The IFA-650.4 and IFA-650.9 rods were subjected to seven cycles prior to refabrication. The thermal-hydraulic conditions for the base irradiation were not provided; therefore, typical PWR conditions were used. This includes a coolant pressure of 15.3 MPa, a coolant mass flux of $3800\,\mathrm{kg/m^2s}$, and an inlet temperature of 580 K. The IFA-650.14 rod was also subjected to seven cycles prior to refabrication; however, the thermal-hydraulic conditions for the base irradiation were representative of BWR conditions. This included a coolant pressure of 7.14 MPa, a coolant mass flux of $1800\,\mathrm{kg/m^2s}$, and an inlet temperature of 560 K.

During the experiment, the boundary conditions become extremely complex. There is the neutronic heating internally to the rod, and the external heating from the heater as well as the complicated coolant conditions due to the LOCA. The axial profile of the neutronic and electrical heater during the transient are prescribed as provided by the experimental measurements. During the preparatory phase, the cladding surface temperature is prescribed based upon measurements from the thermocouples to ensure the proper conditioning of the rods prior to blowdown. After blowdown, the prescribed temperature is removed and the coolant transfer coefficient is significantly degraded. For the IFA-650.4 and IFA-650.14 cases, approximately 30 seconds after blowdown, the heat transfer coefficient is set to 50 $\mathrm{W/m^2}$-K and radiation between the outer cladding surface and the heater is activated. For the IFA-650.9 case, the process is similar except an axial profile on the heat transfer coefficient after blowdown, as suggested by Jernkvist (2017), is employed.

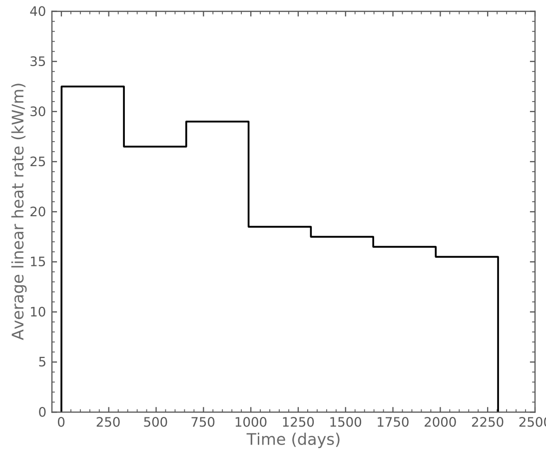
In the analyses completed here, the new HBS formation model is activated to compute the HBS volume fraction, and the `RONCHI` thermal conductivity model described in Chapter 2 was used with the porosity correction method proposed by `LEE`. The calibrated model for porosity formation (see Chapter 3) is also included. In the analyses for IFA-650.4 and IFA-650.9, the BISON simulations are terminated at the time cladding rupture is predicted to occur. Cases utilizing two different failure criteria have been completed to illustrate the complexity and variability in predictions due to the criteria selection for cladding rupture. The two criteria utilized in this work are (Di Marcello et al., 2014):

1. the *plastic instability (PI) criterion*, which deems cladding failure will occur when the inelastic strain rate exceeds $2.778 \times 10^{-2}\,\mathrm{s^{-1}}$
2. the *overstrain (OS) criterion*, which states that cladding failure will occur when the total inelastic strain exceeds an engineering strain value of 40%.

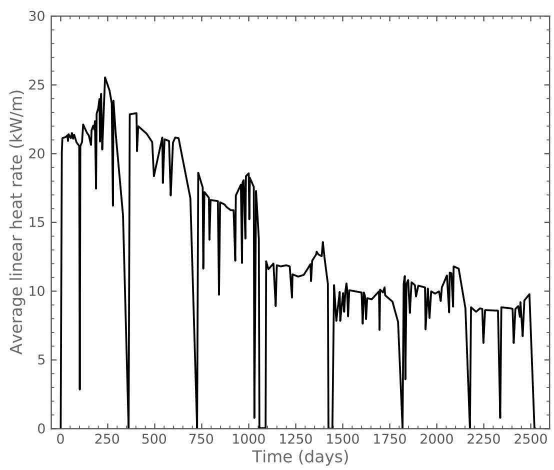
For the IFA-650.14 case, only the case with the plastic instability criterion is simulated since the rod is expected to not rupture during the transient and this criterion is more conservative than the OS criterion. This simulation is terminated 300 seconds after blowdown, which is ~ 27 seconds after scram occurred.



(a) IFA-650.4



(b) IFA-650.9



(c) IFA-650.14

Figure 5.1. Base irradiation power histories for **(a)** IFA-650.4, **(b)** IFA-650.9, and **(c)** IFA-650.14.

5.3 Results & Discussion

Comparisons between the BISON simulations and experimental measurements are provided here. The available measurements to compare against vary depending upon the experiment. All comparisons are during the LOCA transient after blowdown. For IFA-650.4, experimental measurements exist for time-to-rupture, fuel relocation, rod internal pressure, cladding elongation, and cladding surface temperature. For IFA-650.9, measurements include time-to-rupture, fuel relocation, cladding diameter, rod internal pressure, and cladding surface temperature (see Section 5.3.2). For IFA-650.14, measurements include fuel relocation, cladding diameter, rod internal pressure, and cladding surface temperature. In this work, we focus on time-to-rupture, rod internal pressure, fuel relocation, and cladding diameter (see Section 5.3.1, Section 5.3.2, and

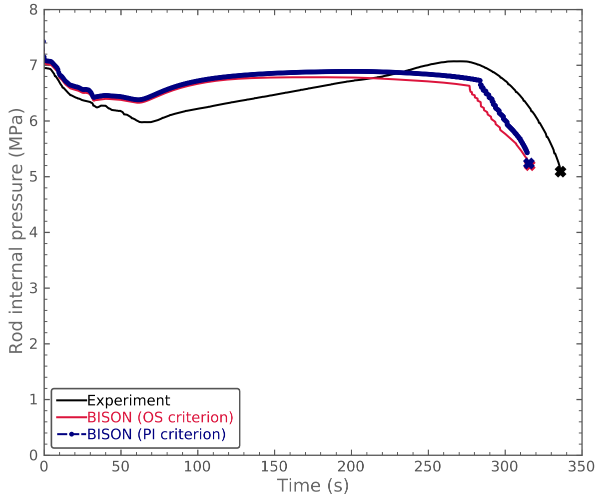
Section 5.3.3).

5.3.1 IFA-650.4

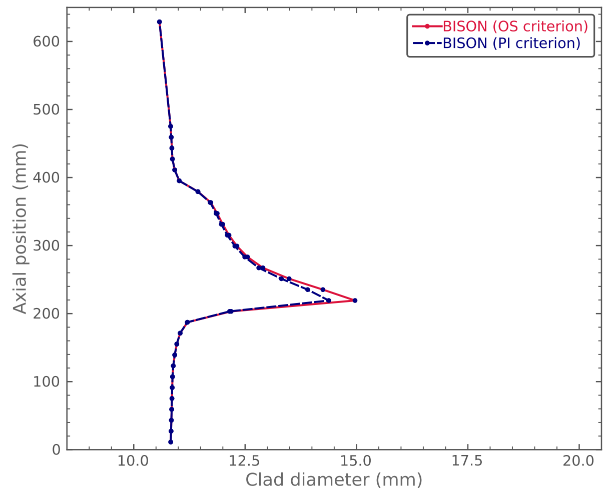
The BISON predictions are compared against the IFA-650.4 experimental data for the rod internal pressure in Figure 5.2a, the cladding diameter in Figure 5.2b, and the mass fraction in Figure 5.2c. This case was analyzed in the previous report, Toptan et al. (2020b). Here, the analysis is revisited while including the coupling between the HBS formation model and the thermal conductivity model. As before, the cladding diameter is included for completeness, but no experimental profilometry is available. The large single balloon observed slightly below the rodlet mid-plane corresponds to the largest accumulation of fuel, as seen in Figure 5.2c. The BISON predictions extend to a larger axial extent than the experimental specimen to ensure the total free volume within the plenum is correctly obtained. The mass fraction profile is compared against a gamma scan of the rodlet during post-irradiation examination (PIE), which varies from 0.01 to 2.00. A value greater than unity (i.e., >1.0) indicates the gain of mass at a particular location, whereas a value less than unity (i.e., <1.0) corresponds to mass loss. A larger concentration of gamma rays is indicative of a larger mass of fuel in the region. The BISON simulations capture the relocation of fuel into the large balloon; however, the length of the region devoid of fuel is different than that of the gamma scan of the experiment. The rod internal pressure predictions are in a good agreement with the trends following the experiment. The marker x at the end of the BISON simulation predictions indicates cladding failure. Overall, there are negligibly small differences in the simulation predictions between cases with the OS and PI failure criteria. Compared to the experimental cladding rupture time of 336.0 s, the BISON simulations predicted failure at 314.8 s and 316.5 s for the PI and OS criteria, respectively. The effect of including the coupling between the models as described in this work is negligible due to the fact that fuel temperatures during the transient are driven by the thermal-hydraulic conditions on the exterior of the cladding. During the base irradiation, one would observe differences in the fuel temperatures due to the additional physics captured in this work; however, the fuel would be in contact with the cladding with a pressure greater than 50 MPa, precluding any additional fuel fragmentation.

5.3.2 IFA-650.9

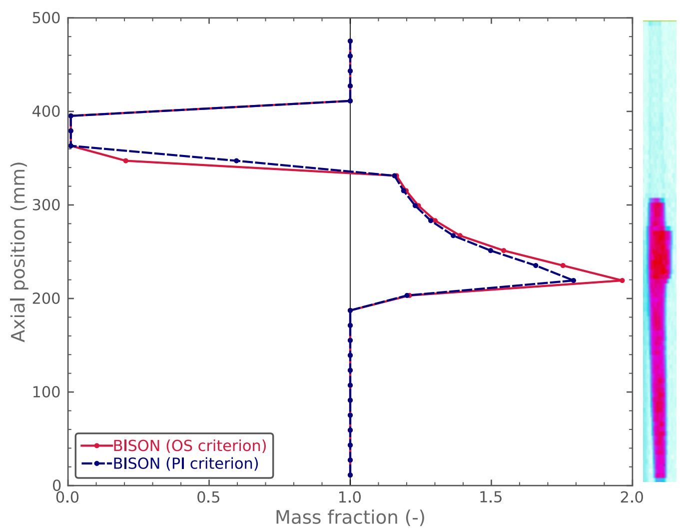
The BISON predictions are compared against the IFA-650.9 experimental data for the rod internal pressure in Figure 5.3a, the clad diameter in Figure 5.3b, and the mass fraction in Figure 5.3c. This case was analyzed previously by Gamble et al. (2017). Here, the analysis is revisited while including the coupling between the HBS formation model and the thermal conductivity model. As with IFA-650.4, the cladding profilometry predictions extend to a higher axial level than the rodlet to ensure proper computation of the internal free volume. Here, we observed a significant difference between the PI and the OS simulations. Compared to the experimental prediction of cladding rupture at 133.0 s, the BISON simulations terminated at 136.5 s and 139.5 s for PI and OS, respectively. The BISON simulations capture the middle balloon with reasonable accuracy, and this is where rupture was predicted to occur. The large lower rupture region observed in the



(a) Rod internal pressure



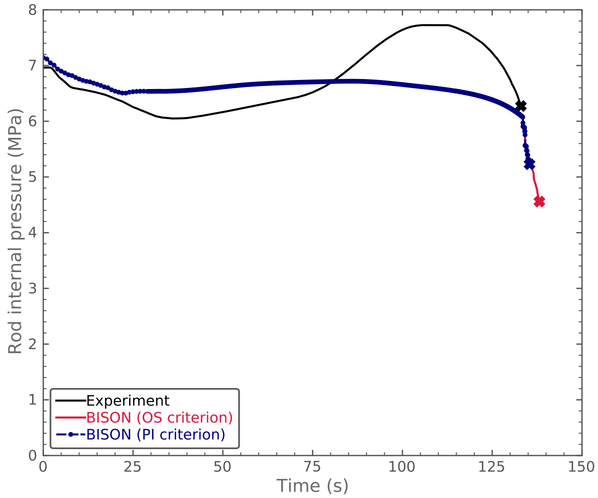
(b) Cladding diameter



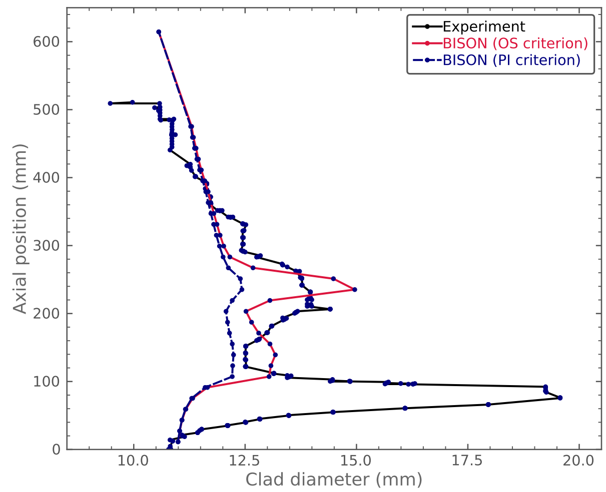
(c) Mass fraction

Figure 5.2. IFA-650.4 validation results. The cladding rupture is indicated by an 'x' marker. The plastic instability and overstrain criteria are denoted by PI and OS, respectively. The Cs-137 gamma scan is reproduced from Kekkonen (2007).

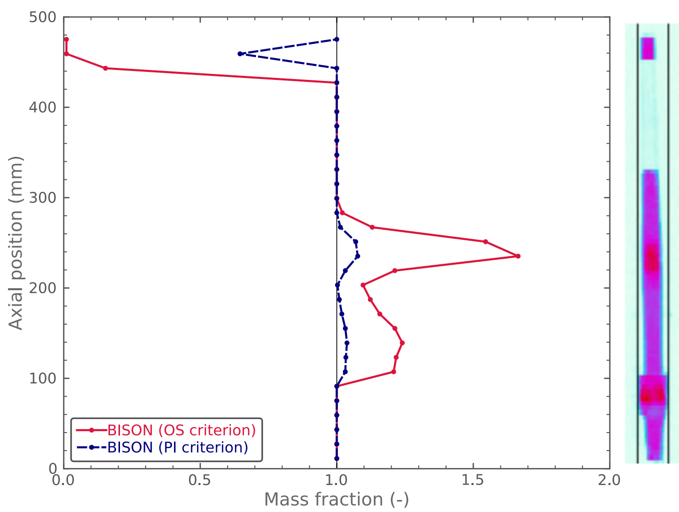
experiment was not captured. It is unclear, based on the provided thermal hydraulic boundary conditions, how the rupture would preferentially occur at the lower region of the cladding. The mass fraction follows a similar behavior to the cladding profilometry, and greater mass movement occurs for the OS criterion. The rod internal pressure predictions are reasonable. The same conclusion to IFA-650.4 can be drawn on why the inclusion of the additional physics added in this report have minimal influence on the BISON predictions during the transient.



(a) Rod internal pressure



(b) Clad diameter

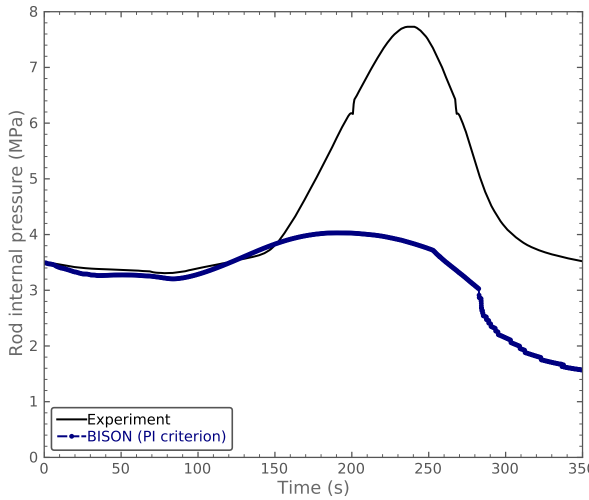


(c) Mass fraction

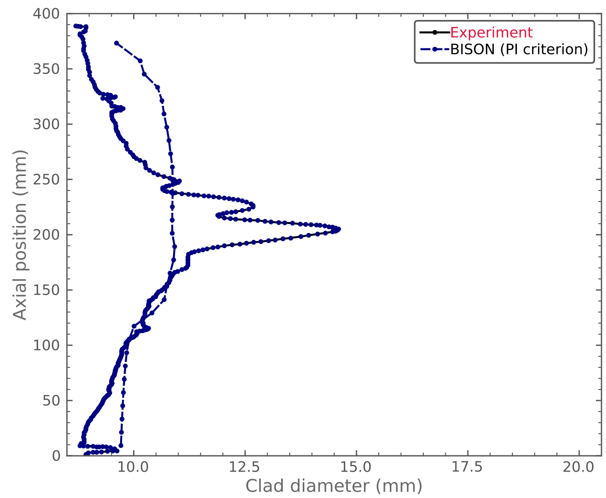
Figure 5.3. IFA-650.9 validation results. The cladding rupture is indicated by an 'x' marker. The plastic instability and overstrain criteria are denoted by PI and OS, respectively. The Cs-137 gamma scan is reproduced from du Chomont F. (2009).

5.3.3 IFA-650.14

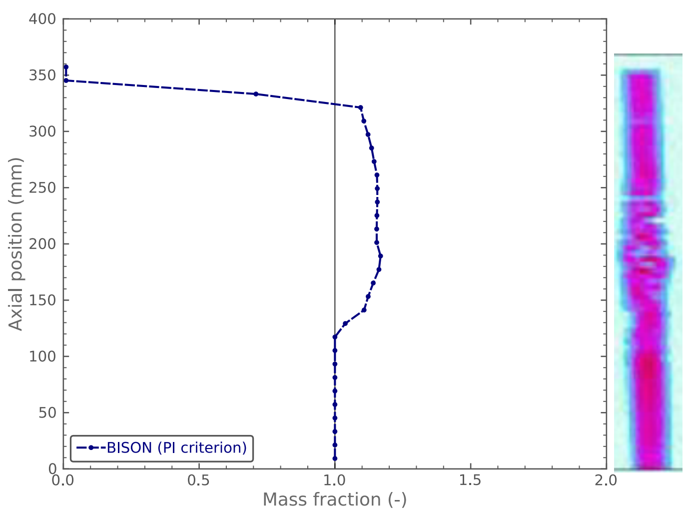
The BISON predictions are compared against the IFA-650.14 experimental data for the rod internal pressure in Figure 5.4a, the clad diameter in Figure 5.4b, and the mass fraction in Figure 5.4c. Recall that this rod was selected because cladding rupture did not occur. This is the first analysis, to the authors' knowledge, of a refabricated rodlet with such a small plenum during a LOCA transient with BISON. The pressure evolution from the experiment is much different in this case than the previously analyzed rods due to this small plenum. The BISON calculation is able to capture the pressure well until the pressure begins to rise rapidly. A large axial balloon is observed as in the experiment; however, the outward extension of this balloon is much less in the BISON calculations. The mass fraction calculation shows complete fuel loss at the top of the rodlet into the ballooned region. Additional work is required to investigate the significant underprediction in the pressure calculation, which will drive the large balloon.



(a) Rod internal pressure



(b) Clad diameter



(c) Mass fraction

Figure 5.4. IFA-650.14 validation results. The cladding rupture is indicated by an 'x' marker. The plastic instability is denoted by PI, respectively. The Cs-137 gamma scan is reproduced from Tradotti (2014). Diameter measurements are reproduced from Oberländer and Jenssen (2014).

6. Concluding Remarks

As nuclear utilities seek to extract as much energy from the fuel as possible (e.g., extending the burnup beyond $\geq$ 60 MWd/kgU), new material problems arise due to increased radiation damage, such as high-burnup structure (HBS) or corrosion (Olander and Motta, 2017). In this study, our efforts mainly focused on enhancing BISON's modeling capabilities for HBS—a complex phenomenon and an ongoing research topic in the nuclear community—to provide an improved prediction of the fuel thermal behavior at these extended burnups. The HBS modeling capabilities in BISON were made available in the previous work (Toptan et al., 2020a). This study explored the physical interpretations of the implemented methods and fully exercising these capabilities in the validation activities in this report. Here is a brief summary of work performed in this study:

1. Chapter 2 describes the thermal conductivity modeling options in the code for both moderate and high burnups for UO_2 fuels. The uncertainty in the fuel thermal conductivity is considered to be one of the most important sources of uncertainty in the thermal analysis of nuclear fuel (Bouloré et al., 2012). For this reason, we attempted to quantify the model form uncertainties in the UO_2 thermal conductivity model, which were obtained from a recalibration of a correlation through an extensive survey of thermal conductivity data (given in Appendix A for reproducibility purposes). Later, those uncertainties were propagated through the MOOSE Stochastic Tools to establish confidence in the model's thermal conductivity estimates. The uncertainty quantification in nuclear engineering or any engineering fields is important to estimate safety margins, which are historically dependent on the conservative estimations from analyses.
2. Chapter 3 evaluates the porosity correction methods (e.g., `MAXWELLEUCKEN`, `KAMPF`, and `LEE` models in BISON's `ThermalFuel`) applied to the fuel thermal conductivity due to conducting HBS pores. Several numerical experiments using finite-element analyses were performed to explore each model and its behavior. The HBS pores have either insulating or conducting characteristics based on the ratio of pore thermal conductivity to the fuel thermal conductivity. The current assumption is that the pores are filled with xenon and behave as a dilute gas; therefore, its thermal conductivity is computed as a function of temperature. According to this assumption, the pore thermal conductivity is significantly smaller than the fuel thermal conductivity, which yields the insulating characteristics and reduces the ETC.
3. Chapter 4 outlines the full exercising of the latest HBS modeling capabilities. Details are provided on

how the volume fraction of restructured fuel is coupled to the thermal conductivity models described in Chapter 2 and Chapter 3. The porosity correction methods are only applied to the portion of fuel that has restructured (given by the HBS volume fraction). Two studies are included to illustrate the importance of including the HBS formation on the fuel thermal conductivity and temperatures within the fuel. For representative normal operating conditions, the difference in predictions based upon the selection of thermal conductivity model is small enough to be captured by the uncertainty in the models. This holds true for the models that have been extrapolated outside of the burnup range for which they were developed.

4. Chapter 5 provides comparisons between BISON calculations and experimental measurements for three LOCA experiments from the Halden IFA-650 test series. Two of the rods (IFA-650.4 and IFA-650.9) have been revisited to observe the changes in predictions by accounting for the full coupling between the HBS volume fraction and the thermal conductivity and, consequently, fine fragmentation models. The third case (IFA-650.14) is new and was selected because the rod experienced significant fuel relocation but no cladding rupture. The results show that, at the end of the LOCA transients, the predictions are not much different than previous previous analyses without the full coupling that was added in this work. This is attributed the fact that the increase in temperatures due to the coupling and HBS formation would be observed more during normal operation since the temperature boundary conditions during the transients are driven almost entirely by the thermal-hydraulic conditions of the experiment. Since the cladding behavior during the transient is unaffected by the HBS formation in the fuel and the simulations are terminated at the point of cladding failure, minimal differences from previous calculations are observed. For the IFA-650.14 analysis, further work is required to improve rod internal pressure predictions for rodlets with extremely small plenums when using layered1D framework.

This work establishes a strong base for BISON's HBS modeling capabilities for UO_2 fuels and expands BISON's validation test suite at extended burnups. In the future, this work will be expanded to include fission-gas behavior within the HBS to have a more mechanistic modeling capability in BISON as well as a lower-length scale informed fine fragmentation threshold. Additional validation cases from the Halden (Fuketa et al., 2010) and Studsvik (Flanagan and Askeljung, 2011; Puranen, 2013) test series will be of interest for the evaluation of the code's capabilities at extended burnups.

Bibliography

Albers, A. P. F., Restivo, T. A. G., Pagano, L., and Baldo, J. B. (2001). Effect of testing conditions on the laser flash thermal diffusivity measurements of ceramics. *Thermochimica Acta*, 370(1–2):111–118.

Amaya, M. et al. (2002). Thermal conductivities of irradiated UO_2 and $(U,Gd)O_2$ pellets. *J. Nucl. Mater.*, 300:57–64.

Amaya, M. and Hirai, M. (1996). Thermal conductivity measurements on $(U,M)O_{2+x}$ pellets. In *Advances in fuel pellet technology for improved performance at high burnup; Proceedings of a Technical Committee meeting held in Tokyo, Japan, 28 October–1 November 1996*, number IAEA-TECDOC-1036, pages 233–243.

Amaya, M., Hirai, M., Wakashima, Y., Kubo, T., Kogai, T., Hayashi, H., and Kitamura, M. (1997). Thermal conductivity measurements on power-ramped irradiated UO_2 pellets. In *TopFuel'97 Fuel Management and Performance*, pages 5.236–5.242.

Amaya, M., Kubo, T., and Korei, Y. (1996). Thermal conductivity measurements on UO_{2+x} from 300 to 1,400 K. *Nucl. Sci. Tech.*, 33:636–640.

Amaya, M., Nakamura, J., Fuketa, T., and Kosaka, Y. (2010). Relationship between changes in the crystal lattice strain and thermal conductivity of high burnup UO_2 pellets. *J. Nucl. Mater.*, 396:32–42.

Aring, K. and Sievers, A. J. (1967). Thermal conductivity and far-infrared absorption of UO_2. *Appl. Phys.*, 38:1496.

Asamoto, R. B., Anselin, F. L., and Conti, A. E. (1969). The effect of density on the thermal conductivity of uranium dioxide. *J. Nucl. Mater.*, 29(1):67–81.

Barani, T., Pizzocri, D., Cappia, F., Luzzi, L., Pastore, G., and Uffelen, P. V. (2020). Modeling high burnup structure in oxide fuels for application to fuel performance codes. part I: High burnup structure formation. *J. Nucl. Mater.*, 539:152296.

Baron, D. and Couty, J. C. (1997). A proposal for a unified fuel thermal conductivity model available for UO_2, $(U\text{-}Pu)O_2$ and UO_2-GD_2O_3 PWR fuel. Technical Report IAEA-TECDOC–957, International Atomic Energy Agency (IAEA).

Bates, J. L. (1970). High-temperature thermal conductivity of round robin uranium dioxide. Technical Report BNWL-1431, Battelle-Northwest, Richland, Wash. Pacific Northwest Lab.

Berman, R. M., Tully, T. S., Belle, J., and Goldberg, I. (1972). Thermal conductivity of polycrystalline thoria and thoria–urania solid solutions (lwbr development program). Technical Report WAPD-TM-908, Bettis Atomic Power Lab.

Bethoux, O., Thomas, P., and Weil, L. (1961). Low-temperature thermal conductivity of UO_2. *Compt.Rend.*, 253(19):2043–2045.

Bogaievski, M., Caillat, R., Delmas, R., Janvier, J. C., and Robertson, J. A. L. (1963). In *New Nuclear Materials Including Non-Metal. Fuels*, pages 307–22.

Bonnerot, J. M. (1988). Proprietes thermiques des oxydes mixtes d'uranium et de plutonium (thermal properties of mixed uranium and plutonium oxides). Technical Report CEA-R-5450, Institut de Recherche Techonologique et de Developpement Industriel; Centre d'Etudes Nucleaires de Cadarache.

Bouloré, A., Struzik, C., and Gaudier, F. (2012). Uncertainty and sensitivity analysis of the nuclear fuel thermal behavior. *Nucl. Eng. Design*, 253:200–210.

Brandt, R., Haufler, G., Neuer, G., and Touloukian, Y. S. (1976). *Thermal conductivity and emittance of solid UO_2*. Purdue Research Foundation.

Brenden, B. B. and Newkirk, H. W. (1959). Technical Report USAEC HW-59574.

Camarano, D. M. et al. (2016). Increase of thermal conductivity of uranium dioxide nuclear fuel pellets with beryllium oxide addition. In *22o CBECiMat - Congresso Brasileiro de Engenharia e Ciência dos Materiais*.

Camarano, D. M. et al. (2017). Effects of beryllium and compaction pressure on the thermal diffusivity of uranium dioxide fuel pellets. *Int. J. Thermophysics*, 38:137.

Cappia, F. (2017). *Investigation of very high burnup UO_2 fuels in Light Water Reactors*. PhD thesis, Technische Universität München.

Carson, J. K. (2006). Review of effective thermal conductivity models for foods. *Int. J. Refrigeration*, 29:958–967.

Christensen, J. et al. (1964). Uranium dioxide thermal conductivity. In *Transactions of the American Nuclear Society*, volume 7, pages 391–392.

Conway, J. B. and Feith, A. D. (1969). Technical Report GEMP-715.

Cozzo, C., Staicu, D., Somers, J., Fernandez, A., and Konings, R. J. M. (2011). Thermal diffusivity and conductivity of thorium–plutonium mixed oxides. *J. Nucl. Mater.*, 416(1–2):135–141.

D. A. G. Bruggeman (1935). Berechnung verschiedener physikalischer konstanten von heterogenen substanzen. I. Dielektrizitätskonstanten und leitfähigkeiten der mischkörper aus isotropen substanzen. *Annalen der physik*, 416(7):636–664.

Daniel, J. L. and Bates, J. L. (1963). Technical Report USAECHW-76303.

Daniel, J. L., Matolich, J. J., and Deem, H. W. (1962). Thermal conductivity of UO_2. AEC Research and Development Report HW-69945, General Electric, Richland, Washington.

Dean, R. A. (1962). Thermal contact conductance between UO_2, and Zircaloy-2. Technical Report USAEC CVNA-127, Westinghouse Electric Corporation, Pittsburgh, PA.

Deem, H. W. and Lucks, C. F. (1959). Technical Report BMI-1324, Batelle (USA).

Deem, H. W. and Matolich, J. J. (1963). Technical Report BM1-1644(Del).

Di Marcello, V., Schubert, A., van de Laar, J., and Van Uffelen, P. (2014). The TRANSURANUS mechanical model for large strain analysis. *Nuclear Engineering and Design*, 276:19–29.

du Chomont F., B. (2009). LOCA Testing at Halden; The Ninth Experiment IFA-650.9. Technical Report HWR-917, OECD Halden Reactor Project.

Duriez, C., Alessandri, J.-P., Gervais, T., and Philipponneau, Y. (2000). Thermal conductivity of hypostoichiometric low pu content $(U,Pu)O_{2-x}$ mixed oxide. *J. Nucl. Mater.*, 277(2–3):143–158.

Eucken, A. (1940). Allgemeine gesetzmäßigkeiten für das wärmeleitvermögen verschiedener stoffarten und aggregatzustände. *Forschung Gabiete Ingenieur*, 11:6–20.

Fayl, G. and Hansen, K. (1972). In-reactor determination of the thermal conductivity of UO_2-pellets up to 2200^oC. Technical Report RISO-269, Danish Atomic Energy Commission.

Faêda, K. C. M. et al. (2010). Caracterizacão térmica de dióxido de urânio pelo método flash laser de 23°C a 175°C. In *19° Congresso Brasileiro de Engenharia e Ciência dos Materiais – CBECiMat*.

Feith, A. D. (1963). Thermal conductivity of UO_2 by radial heat flow method. Technical Report TM-63-9-5.

Ferro, C., Moretti, S., and Patimo, C. (1969). Thermal diffusivity and conductivity of sintered uranium-thorium mixed oxides. In *Thermal Conductivity-Proc. of the 8th Conf.*

Ferro, C., Patimo, C., and Piconi, C. (1972). Thermal diffusivity of mixed $(Th_{1-x}U_x)$ oxides and some materials to be used as reference in the range 650–2700 k. *J. Nucl. Mater.*, 43(3):273–276.

Fink, J. K. (2000). Review: Thermophysical properties of uranium dioxide. *J. Nucl. Mater.*, 279(1):1–18.

Flanagan, M. and Askeljung, P. (2011). Observations of fuel fragmentation, mobility and release in integral high-burnup, fueled loca tests. In *Enlarged Halden Program Group Meeting 2011*.

Fujino, T., Shiratori, T., Sato, N., Fukuda, K., Yamada, K., and Serizawa, H. (2001). Post-irradiation examination of high burnup Mg doped UO_2 in comparison with undoped UO_2, Mg±Nb doped UO_2 and ti doped UO_2. *J. Nucl. Mater.*, 297(2):176–205.

Fuketa, T., Grandjean, C., Hozer, Z., Kelppe, S., Khvostov, G., Hafidi, B., Heins, L., Nagase, F., Petit, M., Therache, B., Valach, M., and Voglewede, J. (2010). Safety significance of the halden IFA-650 LOCA test results. Technical Report NEA/CSNI/R(2010)5, Organisation for Econocmi Co-operation and Development Nuclear Energy Agency Committeee on thte Safety of Nuclear Installations.

Fukushima, S., Ohmichi, T., Maeda, A., and Handa, M. (1983a). Thermal conductivity of near-stoichiometric (U, Nd)O_2, (U, Sm)O_2 and (U, Eu)O_2 solid solutions. *J. Nucl. Mater.*, 114(2–3):312–325.

Fukushima, S., Ohmichi, T., Maeda, A., and Handa, M. (1983b). Thermal conductivity of near-stoichiometric (U, Pu, Nd)O_2 and (U, Pu, Eu)O_2 solid solutions. *J. Nucl. Mater.*, 116(2–3):287–296.

Fukushima, S., Ohmichi, T., Maeda, A., and Handa, M. (1983c). Thermal conductivity of $(Pu_{1-x}Nd_x)O_{2-y}$ and $(Pu_{1-x}Y_x)O_{2-y}$ solid solutions. *J. Nucl. Mater.*, 115(1):118–127.

Fukushima, S., Ohmichi, T., Maeda, A., and Watanabe, H. (1982). The effect of gadolinium content on the thermal conductivity of near-stoichiometric (U,Gd)O_2 solid solutions. *J. Nucl. Mater.*, 105(2-3):201–210.

Gamble, K. A., Gardner, R. J., and Williamson, R. L. (2017). Bison fy17 accident capability development. Technical Report CASL-U-2017-1389-000, Idaho National Lab.(INL).

Gaston, D., Newman, C., Hansen, G., and Lebrun-Grandié, D. (2009). MOOSE: a parallel computational framework for coupled systems of nonlinear equations. *Nuclear Engineering and Design*, 239(10):1768–1778.

Gerczak, T., Parish, C., Edmondson, P., Baldwin, C., and Terrani, K. (2018). Restructuring in high burnup UO_2 studied using modern electron microscopy. *J. Nucl. Mater.*, 509:245–259.

Giby, R. L. (1968). The thermal diffusivity and thermal conductivity of stoichiometric $(U_{0.8}Pu_{0.2})0_2$. Technical Report BNWL-704, Battelle-Northwest, Richland, Wash. Pacific Northwest Lab.

Giby, R. L. (1969). The effect of oxygen stoichiometry on the thermal diffusivity and conductivity of $U_{0.75}Pu_{0.25}0_{2-x}$. Technical Report BNWL-927, Battelle-Northwest, Richland, Wash. Pacific Northwest Lab.

Giby, R. L. (1971). The effect of plutonium content on the thermal conductivity of (U, Pu)O_2 solid solutions. *J. Nucl. Mater.*, 38(2):163–177.

Giby, R. L. (1972). Fabrication microstructure and thermal conductivity in UO_2–25 wt. percent PuO_2 sintered pellets. Technical report.

Gilchrist, K. E., Brocklehurst, J. E., and Ware, J. O. (1974). Some thermal property measurements on UO_2-Mo composites. Technical report, UKAEA Reactor Group.

Godfrey, T. G., Fulkerson, W., Kollie, T. G., Moore, J. P., and McElroy, D. L. (1964). Thermal conductivity of uranium dioxide and ARMCO iron by an improved radial heat flow technique. Technical Report ORNL-3556, Oak Ridge National Lab.(ORNL).

Godfrey, T. G., Fulkerson, W., Kollie, T. G., Moore, J. P., and McElroy, D. L. (1965). Thermal conductivity of uranium dioxide from -57° to 1100°C by a radial heat flow technique. *American Ceramic Society*, 48(6):297–305.

Godfrey, T. G., McElrov, D. L., and Manly, W. D. (1962a). Technical Report USAEC ORNL-3254.

Godfrey, T. G., McElrov, D. L., and Manly, W. D. (1962b). Technical Report USAEC ORNL-3210.

Godfrey, T. G., McElrov, D. L., and Manly, W. D. (1962c). Technical Report USAEC ORNL-3372.

Goldsmith, L. A. and Douglas, J. A. M. (1972). The thermal conductivity of plutonium-uranium dioxide at temperatures up to 1273 K. *J. Nucl. Mater.*, 43(3):225–233.

Goldsmith, L. A. and Douglas, J. A. M. (1973). Measurements of the thermal conductivity of uranium dioxide at 670–1270 k. *J. Nucl. Mater.*, 47(1):31–42.

Grossi, P. A., Ferreira, R. A. N., Camarano, D. d., and Andrade, R. M. (2009). Measurement of uranium dioxide thermophysical properties by the laser flash method. In *INAC 2009: International nuclear atlantic conference Innovations in nuclear technology for a sustainable future, Brazil*.

Hales, J., Novascone, S. R., Spencer, B. W., Williamson, R. L., Pastore, G., and M.Perez, D. (2014a). Verification of the BISON fuel performance code. *Annals of Nuclear Energy*, 71:81–90.

Hales, J. D. et al. (2014b). *BISON Theory Manual The Equations Behind Nuclear Fuel Analysis*. Idaho National Lab.(INL), Idaho Falls, Idaho.

Hales, J. D., Jiang, W., Toptan, A., and Gamble, K. A. (2020). BISON TRISO Modeling Advancements and Validation to AGR-1 Data. PEMP Notable Outcome 1.1.C Completion Report INL/EXT-20-59368, Idaho National Laboratory, Idaho Falls, ID United States.

Hales, J. D., Williamson, R. L., Novascone, S. R., Perez, D. M., Spencer, B. W., and Pastore, G. (2013). Multidimensional multiphysics simulation of TRISO particle fuel. *J. Nucl. Mater.*, 443:531–543.

Haley, J., Leibowitz, L., Fischer, J., and Chasanov, M. G. (1973). Physical and chemical studies - molten fuel, cladding, and coolant: Interim report on determination of thermal diffusivity of molten UO_2. Technical report, Argonne National Lab. (ANL).

Hetzler, F. and Zebroski, F. (1964). Thermal conductivity of stoichiometric and hypostoichiometric uranium dioxide at high temperatures. In *Transactions of American Nuclear Society*, volume 7, page 392.

Hetzler, F. J., Lannin, T. E., Perry, K. J., and Zebroski, E. L. (1967). Technical Report GEAP-4879.

Hirai, M. (1990). Thermal diffusivity of UO_2-Gd_2O_3 pellets. *J. Nucl. Mater.*, 173(3):247–254.

Hirai, M., Amaya, M., and Wakashima, Y. (1996). Thermal diffusivity measurementds of irradiated UO_2 pellets. In *Advances in fuel pellet technology for improved performance at high burnup; Proceedings of a Technical Committee meeting held in Tokyo, Japan, 28 October–1 November 1996*, number IAEA-TECDOC-1036, pages 139–148.

Hirai, M. and Ishimoto, S. (1991). Thermal diffusivities and thermal conductivities of UO_2-Gd_2O_3. *Nucl. Sci. Tech.*, 28(11):995–1000.

Hobson, I. C., Taylor, R., and Ainscough, J. B. (1974). Effect of porosity and stoichiometry on the thermal conductivity of uranium dioxide. *Physics D: Appl. Phys.*, 7(7).

Howard, V. C. and Gulvin, T. F. (1960). Thermal conductivity determinations on uranium dioxide by a radial flow method. Technical Report IG-Report-51; NPCC-FEWP/P.700, United Kingdom Atomic Energy Authority.

Howard, V. S. and Gulvin, T. F. (1961). Thermal conductivity determinations on uranium dioxide by a radial flow method. Technical Report Rpt 51 (Rd/C), UKAEA IG.

IAEA (2008). Best estimate safety analysis for nuclear power plants: Uncertainty evaluation.

Inoue, M. (2000). Thermal conductivity of uranium–plutonium oxide fuel for fast reactors. *J. Nucl. Mater.*, 282(2–3):186–195.

International Atomic Energy Agency (IAEA) (1966). Thermal conductivity of uranium dioxide. Technical Report 59, Vienna.

International Atomic Energy Agency (IAEA) (2019). Fuel modeling in accident conditions (FUMAC) final: Final report of a coordinated research project. Technical Report IAEA-TECDOC-1889, International Atomic Energy Agency.

Iwasaki, K. et al. (2009). Effect of Gd_2O_3 dispersion on the thermal conductivity of UO_2. *Nucl. Sci. Tech.*, 46(7):673–676.

Jernkvist, L. O. (2017). Computational assessment of LOCA simulation tests on high burnup fuel rods in Halden and Studsvik. Technical Report 2017:12, Swedish Radiation Safety Authority.

Jiang, W., Hales, J. D., Spencer, B. W., Collin, B., Slaughter, A. E., Novascone, S. R., Toptan, A., Gamble, K. A., and Gardner, R. (2020). TRISO particle fuel performance modeling and failure analysis with BISON. *(under journal review).*

Kamimoto, M., Murabayashi, M., Takahashi, Y., and Mukaibo, T. (1973). Thermal conductivity of UO_2 and U_4O_9 from 100 to 300 K. *J. Nucl. Mater.*, 46(3):309–314.

Kämpf, H. and Karsten, G. (1970). Effects of different types of void volumes on the radial temperature distribution of fuel pins. *Nuclear Technology*, 9(3):288–300.

Kato, M. et al. (2006). Evaluation of thermal physical properties for fast reactor fuels. melting point and thermal conductivities. Technical Report JAEA-Technology-2006-049, JAEA-TECHNOLOGY.

Kavazauri, R., Pokrovskiy, S. A., Baranov, V. G., and Tenishev, A. V. (2016). Thermal properties of nonstoichiometry uranium dioxide. *IOP Conference Series: Materials Science and Engineering*, 130:012025.

Kekkonen, L. (2007). LOCA Testing at Halden; The Fourth Experiment IFA-650.4. Technical Report HWR-838, OECD Halden Reactor Project.

Kim, S. H. et al. (2005). Thermal conductivity of near-stoichiometric (U, Er)O_2 solid solutions. *J. Nucl. Mater.*, 342(1–3):119–124.

Kingery, W. D. (1959). Thermal conductivity: XIV, conductivity of multicomponent systems. *American Ceramic Society*, 42(12):617–627.

Kingery, W. D., Francl, J., Coble, R. L., and Vasilos, T. (1954). Thermal conductivity: X, data for several pure oxide materials corrected to zero porosity. *American Ceramic Society*, 37(2):107–110.

Kleykamp, H. (1999). Selection of materials as diluents for burning of plutonium fuels in nuclear reactors. *Nuclear Materials*, 275:1–11.

Kolyadin, V. et al. (1974). The thermal conductivity of uranium dioxide. *Energy*, 36(1):64–66.

Kosaka, Y., Doi, S., and Yamate, K. (1996). Thermal properties and irradiation behaviour of Gd fuel. In *Advances in fuel pellet technology for improved performance at high burnup; Proceedings of a Technical Committee meeting held in Tokyo, Japan, 28 October–1 November 1996*, number IAEA-TECDOC-1036, pages 219–231.

Kruger, O. (1968). Thermal properties of LMFBR fuels. Progress report ANL-7518, Reactor Development Program.

Kruglov, A. B., Kruglov, V. B., and Tenishev, A. V. (2010). Measurement of thermal diffusivity of nuclear engineering materials by the flash method. *High Temperature*, 48(1):136–139.

Lagedrost, J. F., Askey, D. F., Storhok, V. W., and Gates, J. E. (1968). Thermal conductivity of PuO_2 as determined from thermal diffusivity measurements. *Nuclear Applications*, 4(1):54–61.

Lanning, D. D., Beyer, C. E., and Geelhood, K. J. (2005). FRAPCON-3 updates, including mixed-oxide fuel properties. Technical Report NUREG/CR-6534, Vol.4; PNNL-11513, Pacific Northwest National Laboratory, Richland, WA 99532.

Laskiewicz, R. A., Evans, S. K., Melde, G. F., and Bohaboy, P. E. (1971). Thermal conductivity of uranium-plutonium oxide. Technical report.

Lassmann, K., Walker, C. T., van de Larr, J., and Lindström, F. (1995). Modelling the high burnup UO_2 structure in LWR fuel. *J. Nucl. Mater.*, 226:1–8.

Lee, B.-H., Koo, Y.-H., and Sohn, D.-S. (1999). Modeling of the rim effect on thermal behavior of high-burnup UO_2 fuel. *Nuclear Technology*, 127:151–159.

Lee, B. H., Koo, Y. H., and Sohn, D. S. (2001). Rim characteristics and their effects on the thermal conductivity in high burnup UO_2 fuel. *Nucl. Sci. Tech.*, 38(1):45–52.

Lemekhov, S. E. (1994). In *Int. Topical Meeting on Light Water Reactor Fuel Performance*, pages 162–179, West Palm Beach.

Lucks, C. F. and Deem, H. W. (1960). Thermal conductivity and electrical conductivity of UO_2. Technical Report BMI-1448(Rev.), Battelle Memorial institution, Columbus, Ohio.

Lucuta, P. G., Matzke, H., and Hastings, I. J. (1996). A pragmatic approach to modelling thermal conductivity of irradiated UO_2 fuel: review and recommendations. *J. Nucl. Mater.*, 232:166–180.

Lucuta, P. G., Matzke, H., and Verrall, R. A. (1994). Modelling of UO_2-based simfuel thermal conductivity the effect of the burnup. *J. Nucl. Mater.*, 217(3):279–286.

Lucuta, P. G., Matzke, H., and Verrall, R. A. (1995). Thermal conductivity of hyperstoichiometric simfuel. *J. Nucl. Mater.*, 223(1):51–60.

Lucuta, P. G., Matzke, H., Verrall, R. A., and Tasman, H. A. (1992). Thermal conductivity of SIMFUEL. *J. Nucl. Mater.*, 188:198–204.

Lyon, W. F. (2015). Summary report: Gd thermal conductivity model updates. Technical Report ANA-P1400138-TN03 Rev. 2, Anatech Corp.

Lyons, M. F., Coplin, D. H., Hausner, H., Weidenbaum, B., and Pashos, T. J. (1966). Technical Report USAEC GEAP-51000-1.

Lyons, M. F. et al. (1963). UO_2 thermal conductivity at elevated temperatures. In *Transactions of the American Nuclear Society*, volume 6, page 152.

Mansur, F. A. et al. (2015). Measurements of thermophysical properties of urania-gadolinia pellets by the laser flash method. In *2015 Int. Nuclear Atlantic Conference - INAC 2015*, São Paulo, SP, Brazil.

Mansur, F. A. et al. (2017). Thermal conductivity and thermal diffusivity of UO_2-BeO nuclear fuel pellets. In *2017 Int. Nuclear Atlantic Conference - INAC 2017*.

Marion, A. (2006). Letter dated june 13, 2016 to HN Berkow (USNRC/NRR). Technical report, Nuclear Energy institution (NEI).

Martin, W. R. and Weir, J. R. (1961). A device to simulate the service thermal conditions in EGCR-type fuel elements. Technical Report ORNL-3032, Oak Ridge National Lab.(ORNL).

Massih, A. R., Persson, S., and Weiss, Z. (1992). Modelling of (U,Gd)O_2 fuel behaviour in boiling water reactors. *J. Nucl. Mater.*, 188:323–330.

Maxwell, J. C. (1873). *Treatise on Electricity and Magnetism*. Oxford University Press Oxford.

Minato, K. et al. (2001). Thermal conductivities of irradiated UO_2 and (U,Gd)O_2. *J. Nucl. Mater.*, 288(1):57–65.

Moore, J. P. and McElroy, D. L. (1971). Thermal conductivity of nearly stoichiometric single-crystal and polycrystalline UO_2. *The American Ceramic Society*, 54(1):40–46.

Morimoto, K., Kato, M., Kashimura, M., and Ogasawara, M. (2009). The influence of pu-content on thermal conductivities of (U, Pu)O_2 solid solution. Technical report, International Atomic Energy Agency (IAEA).

Morimoto, K. and Ogasawara, M. (2017). The influence of porosity on thermal conductivity of low-density uranium oxide. Technical Report IAEA-CN–245, International Atomic Energy Agency (IAEA).

Musella, M. (1999). *Development and test of a method for the Simultaneous Measurement of Heat Capacity and Thermal Diffusivity by Laser-flash Technique at Very High Temperatures: Application to Uranium Dioxide*. PhD thesis, The University of Warwick, Department of Physics.

Nakamura, J., Uchida, M., Uetsuka, H., and Furuta, T. (1996). Thermal diffusivity of high burnup UO_2 pellet. In *Advances in fuel pellet technology for improved performance at high burnup; Proceedings of a Technical Committee meeting held in Tokyo, Japan, 28 October–1 November 1996*, number IAEA-TECDOC-1036, pages 127–138.

Newman, L. W. et al. (1982). Development and demonstration of an advanced extended-burnup fuel assembly design incorporating urania-gadolinia. Technical Report DOE 34212-36, BAW-1681-2, Babcock and Wilcox.

Nishijima, T., Kawada, T., and Ishihata, A. (1965). Thermal conductivity of sintered UO_2 and Al_2O_3 at high temperatures. *American Ceramic Society*, 48(1):31–34.

Noirot, J., Pontillon, Y., Yagnik, S., and Turnbull, J. (2015). Post-irradiation examinations and high-temperature tests on undoped large-grain UO_2 discs. *J. Nucl. Mater.*, 462:77–84.

Norton, F. H., Kingery, W. D., et al. (1953). USAEC Progr. Rept NYO-3646.

Oberländer, B. C. and Jenssen, H. K. (2014). PIE on the rod from the LOCA test IFA-650.14 on high burn-up BWR fuel. Technical Report HWR-1096, OECD Halden Reactor Project.

Ohira, K. and Itagaki, N. (1997). Thermal conductivity measurements of high burnup UO_2 pellet and a benchmark calculation of fuel centerline temperature. Proceedings of the International Topical Meeting on LWR Fuel Performance, pages 541–549, Portland, OR. American Nuclear Society.

Olander, D. R. and Motta, A. T. (2017). *Light Water Reactor Materials, Volume I: Fundamentals*. American Nuclear Society.

Ondracek, G. and Schultz, B. (1973). The porosity dependence of the thermal conductivity for nuclear fuels. *J. Nucl. Mater.*, 46(3):253–258.

Otter, C. and Damien, D. (1983). Measurement of the thermal diffusivity of molten UO_2. Number ANL-Trans–1215.

Pavlov, T., Vlahovic, L., Staicu, D., Konings, R. J. M., Wenman, M. R., Grimes, R. W., and Van Uffelen, P. (2016). Experimental evaluation of the high temperature thermo-physical properties of UO_2. In *Transactions of the American Nuclear Society, Top Fuel 2016*, Boise, Idaho (United States).

Pavlov, T. R. et al. (2017). Measurement and interpretation of the thermo-physical properties of UO_2 at high temperatures: The viral effect of oxygen defects. *Acta Materialia*, 139(15):138–154.

Permann, C. J., Gaston, D. R., Andrš, D., Carlsen, R. W., Kong, F., Lindsay, A. D., Miller, J. M., Peterson, J. W., Slaughter, A. E., Stogner, R. H., and Martineau, R. C. (2020). MOOSE: Enabling massively parallel multiphysics simulation. *SoftwareX*, 11:100430.

Pillai, C. G. S. and George, A. M. (1993). Thermal conductivity of uranium dioxide. *J. Nucl. Mater.*, 200(1):78–81.

Pitts, S. A., Novascone, S. R., Chen, H., Spencer, B. W., Satpathy, S., Gardner, R. J., and Hales, J. D. (2017). Verify and validate 1.5D capability. Technical Report CASL-U-2017-1380-000, Idaho National Lab.(INL).

Pizzocri, D., Cappia, F., Luzzi, L., Pastore, G., Rondinella, V. V., and Uffelen, P. V. (2017). A semi-empirical model for the formation and depletion of the high burnup structure in UO_2. *J. Nucl. Mater.*, 487:23–29.

Porneuf, A. (1962). Technical Report USAEC CEND-153.

Porter, N. W. (2018). *Development of a Novel Residual Formulation of CTF and Application of Parameter Estimation Techniques*. PhD thesis, Nuclear Engineering, North Carolina State University.

Porter, N. W. (2019). Wilks' formula applied to computational tools: A practical discussion and verification. *Annals of Nuclear Energy*, 133:129–137.

Porter, N. W., Mousseau, V. A., and Avramova, M. N. (2019). Quantified validation with uncertainty analysis for turbulent single-phase friction models, nuclear technology. 205(12):1607–1617.

Progelhof, R. C., Throne, J. L., and Reutsch, R. R. (1976). Methods for predicting the thermal conductivity of composite systems: A review. *Polymer Engineering Science*, 16:615–625.

Puranen, A. (2013). Post test examinations on loca tested rods. Technical Report STUDSVIK/N-13/198, Studsvik.

Reiswig, R. D. (1961). Thermal conductivity of UO_2 to 2100^{o}C. *American Ceramic Society*, 44(1):48–49.

Rest, J. (1993). Kinetics of fission-gas-bubble-nucleated void swelling of the alpha-uranium phase of irradiated U-Zr and U-Pu-Zr fuel. *J. Nucl. Mater.*, 207:192–204.

Rest, J. and Hofman, G. L. (1991). Plenum Press, New York.

Ronchi, C., Sheindlin, M., and Musella, M. (1999). Thermal conductivity of uranium dioxide up to 2900 K from simultaneous measurement of the heat capacity and thermal diffusivity. *Appl. Phys.*, 85(2):776.

Ronchi, C., Sheindlin, M., Staicu, D., and Kinoshita, M. (2004). Effect of burn-up on the thermal conductivity of uranium dioxide up to 100.000 MWd t^{-1}. *J. Nucl. Mater.*, 327:58–76.

S. J. Paprocki (Ed.), Keller, D. L., Hodge, E. S., Boyer, C. B., Fox, J. B., Kizer, D. E., and Porembka, S. W. (1960). Progress on the use of gas-pressure bonding for fabricating low-cost ceramic, cermet, and dispersion fuels, phase II. USAEC Rept BMI-1475, AEC Fuel-Cycle Program, Battelle Memorial institution.

Saoudi, M., Staicu, D., Mouris, J., Bergeron, A., Hamilton, H., Naji, M., Freis, D., and Cologna, M. (2018). Thermal diffusivity and conductivity of thorium-uranium mixed oxides. *J. Nucl. Mater.*, 500:381–388.

Schmidt, H., Richter, J., and den Berg, M. V. (1966). Thermal conductivity measurements on uranium-plutonium mixed oxides. In *Proc of the 6th Conf on Thermal conductivity*, pages 527–545, Dayton, Ohio.

Schmidt, H. E. (1971). Some considerations on the thermal conductivity of stoichiometric uranium dioxide at high temperatures. *J. Nucl. Mater.*, 39(2):234–237.

Schmidt, H. E. (1972). Thermal conductivity of uranium dioxide and of uranium-plutonium dioxide at high temperatures. Technical Report 5, Forschung im Ingenieurwesen.

Schulz, B. (1981). Thermal conductivity of porous and highly porous materials. *High Temperatures – High Pressures*, 13(6):649–660.

Scott, R. (1958). Thermal conductivity of UO_2. Technical Report AERE M/R 2526, Atomic Energy Research Establishment, Harwell, Berks.

Sengupta, A. K. and Ganguly, C. (1989). Thermal conductivity measurements of ceramic nuclear fuels by laser flash method. *Thermal Conductivity*, 20:153–162.

Serizawa, M., Kaneko, H., and Koizumi, M. (1969a). Thermal diffusivity measurements of hypostoichiometric UO_2 by an electron beam technique. *Nucl. Sci. Tech.*, 6(8):419–423.

Serizawa, M., Kaneko, H., Yokouchi, Y., and Koizumi, M. (1969b). Thermal diffusivity measurements of hypostoichiometric uranium dioxide and uranium plutonium oxide by a modulated electron beam technique. In *Thermal Conductivity. Proceedings of the Eighth Conference*, pages 549–567, Purdue University, West Lafayette, Indiana.

Serizawa, M., Kaneko, H., Yokouchi, Y., and Koizumi, M. (1970). Thermal diffusivity and thermal conductivity of uranium-plutonium dioxide. *J. Nucl. Mater.*, 34(2):224–226.

Shaw, T. L., Ellis, W. E., Carrol, J. C., and Gomme, R. A. (2001). Thermal diffusivity measurements on oxidised irradiated urania fuel up to 900 deg C. Technical Report (IAEA-TECDOC–1233), International Atomic Energy Agency (IAEA).

Sheely, W. F. (1969). Quarterly progress report, july–september 1969. reactor fuels and materials development programs for fuels and materials branch of USAEC Division of reactor development and technology. Technical Report BNWL-1223, Battelle-Northwest, Richland, Wash. Pacific Northwest Lab.(PNNL).

Sheindlin, M., Halton, D., Musella, M., and Ronchi, C. (1998). Advances in the use of laser-flash techniques for thermal diffusivity measurement. *Review of Scientific Instruments*, 69:1426.

Siefken, L. J., Coryell, E. W., Harvego, E. A., and Hohorst, J. K. (2000). SCDAP/RELAP5/MOD 3.3 code manual; MATPRO - a library of materials properties for light-water-reactor accident analysis. Technical Report NUREG/CR-6150, Vol.4, Rev.2; INEL-96/0422, Idaho National Engineering and Environmental Laboratory.

Sievers, A. J. and Pohl, R. O. (1964). Technical Report CFSTI NYO-2391-5,CONF-764-4.

Skakov, M. K., Mukhamedov, N. Y., Vurim, A. D., and Deryavko, I. I. (2017). Temperature dependence of thermophysical properties of full-scale corium of fast energy reactor. *Science and Technology of Nuclear Installations*, 2017(8294653).

Sonoda, T., Kameyama, T., Sasahara, A., Kitajima, S., Nauchi, Y., Kinoshita, M., Rondinella, V., Wiss, T., Hiernaut, J., Papaioannou, D., Sheindlin, M., and Staicu, D. (2007). Clarification of rim structure effects on properties and behaviour of lwr UO_2 fuels and gadolinia doped fuels. Technical report.

Staicu, D. and Barker, M. (2013). Thermal conductivity of heterogeneous LWR MOX fuels. *J. Nucl. Mater.*, 442(1–3):46–52.

Staicu, D., Rondinella, V. V., Walker, C. T., Papaioannou, D., Konings, R. J. M., Ronchi, C., Sheindlin, M., Sasahara, A., Sonoda, T., and Kinoshita, M. (2014). Effect of burn-up on the thermal conductivity of uranium–gadolinium dioxide up to 100 GWd/tHM. *J. Nucl. Mater.*, 453:259–268.

Stora, J., de Bernardy de Sigoyer, B., Delmas, R., Deschamps, P., Lavaud, B., and Ringot, C. (1964). Conductibilité thermique de l'oxyde d'uranium fritte dans les conditions d'utilisation en pile (French). Technical Report CEA-R-2586, Centre D'Etudes Nuclearies de Saclay.

Tasman, H. A. (1992). Thermal conductivity of SIMFUEL (i.e. UO_2 nuclear fuel with simulated burn up). Technical Report OEFZS-A–2396.

Topliss, J. R., Palmer, I. D., Abeta, S., Irisa, Y., and Yamate, K. (1997). Measurement and analysis of MOX physical properties. Technical Report IAEA-TECDOC–941, International Atomic Energy Agency (IAEA).

Toptan, A. (2019). *A Novel Approach to Improve Transient Fuel Performance Modeling in Multi-Physics Calculations*. PhD thesis, North Carolina State University.

Toptan, A., Gamble, K., and Pastore, G. (2020a). BISON capabilities for LWR fuel behavior analysis during accident and high-burnup conditions. Technical Report INL/EXT-20-59392 Rev. 0, Idaho National Lab.(INL), Idaho Falls, ID United States.

Toptan, A., Hales, J. D., Williamson, R. L., Novascone, S. R., Pastore, G., and Kropaczek, D. J. (2020b). Modeling of gap conductance for LWR fuel rods applied in the BISON code. *J. Nucl. Sci. Tech.*, 57(8):963–974.

Toptan, A., Kropaczek, D. J., and Avramova, M. N. (2019a). Gap conductance modeling I: Theoretical considerations for single- and multi-component gases in curvilinear coordinates. *Nuclear Engineering and Design*, 353.

Toptan, A., Kropaczek, D. J., and Avramova, M. N. (2019b). Gap conductance modeling II: Optimized model for uo_2-zircaloy interfaces. *Nuclear Eng Design*, 355.

Toptan, A., Kropaczek, D. J., and Avramova, M. N. (2019c). On the validity of the dilute gas assumption for gap conductance calculations in nuclear fuel performance codes. *Nuclear Engineering and Design*, 350:1–8.

Toptan, A., Porter, N. W., Hales, J. D., Spencer, B. W., Pilch, M., and Williamson, R. L. (2020c). Construction of a code verification matrix for heat conduction with finite element code applications. *Journal of Verification, Validation and Uncertainty Quantification, Transactions of the ASME*, 5(4):041002 (15 pages). DOI:10.1115/1.4049037.

Toptan, A., Porter, N. W., Hales, J. D., Williamson, R. L., and Pilch, M. (2020d). FY20 Verification of BISON Using Analytic and Manufactured Solutions. Technical Report CASL-U-2020-1939-000; SAND2020-3887 R (96 pages), CASL, Sandia National Laboratory (SNL). DOI:10.2172/1614683.

Toptan, A., Salko, R. K., Avramova, M. N., , and Kropaczek, D. J. (2018). Assessment of the newly developed fuel solver code CTFFuel. In *ANS Best Estimate Plus Uncertainty International Conference (BEPU 2018), BEPU2018-255.*

Touloukian, Y. S., Powell, R. W., Ho, C. Y., and Klemens, P. G. (1971). *Thermophysical Properties of Matter - The TPRC Data Series: Thermal Conductivity - Nonmetallic Solids*, volume 2. Purdue Univ., Lafayette, IN (United States). Thermophysical and Electronic Properties Information Center.

Tradotti, R. (2014). LOCA Testing at Halden, The BWR Fuel Experiment IFA-650.14. Technical Report HWR-1084, OECD Halden Reactor Project.

Van Craeynest, J. C. and Stora, J. P. (1970). Effet de la porosite sur la variation de conductibilite thermique du bioxyde d'uranium en fonction de la temperature: Application *â* l'oxyde mixte $(UPu)_{2,00}$ *â* 20% $Pu0_2$. *J. Nucl. Mater.*, 37(2):153–158.

VanCraeynest, J. C. and Weilbacher, J. C. (1968). Etude de la conductibilite thermique des oxydes mixtes d'uranium et de plutonium (in french). Technical Report CEA-R-3488, Premier Ministre, Commissariat a L'Eenergie Atomique.

VanCraeynest, J. C. and Weilbacher, J. C. (1969). Mesure de la diffusivite thermique de 0°C a 2000°C application a UO_2. Technical Report CEA-R-3764, Premier Ministre, Commissariat a L'Eenergie Atomique.

Vlahovic, L., Staicu, D., Küst, A., and Konings, R. J. M. (2018). Thermal diffusivity of UO_2 up to the melting point. *J. Nucl. Mater.*, 499:504–511.

Vogt, J., Grandell, L., and Runfors, U. (1964). Determination of the thermal conductivity of unirradiated uranium dioxide. Number RMB-527.

Walker, C. T., Staicu, D., Sheindlin, M., Papaioannou, D., Goll, W., and Sontheimer, F. (2006). On the thermal conductivity of UO_2 nuclear fuel at a high burn-up of around 100 MWd/kgHM. *J. Nucl. Mater.*, 350:19–39.

Walter, A. J., Dell, R. M., and Burgess, P. C. (1970). Measurement of thermal diffusivities using a pulsed electron beam. *Rev. Int. Hautes Temp. Refract.*, 7:271–277.

Weilbacher, J. A. (1972). Diffusivite thermique de l'oxyde d'uranium et de l'oxyde de thorium a haute temperature. *high Temperatures-High Pressure*, 4:431–438.

Wheeler, M. J. (1965). Thermal diffusivity at incandescent temperatures by a modulated electron beam technique. *British J. Appl. Phys.*, 16(3):365–376.

White, J. T. and Nelson, A. T. (2013). Thermal conductivity of UO_{2+x} and U_4O_{9-y}. *J. Nucl. Mater.*, 443(1–3):342–350.

Wiesenack, W. (1997). pages 507–511, Portland, Oregon. Proc. ANS Inter. Topical Meeting on LWR Fuel Performance.

Wilks, S. S. (1941). Determination of sample sizes for setting tolerance limits. *Ann. Math. Statist.*, 12(1):91–96.

Williamson, R. L. et al. (2012). Multidimensional multiphysics simulation of nuclear fuel behavior. *Journal of Nuclear Materials*, 423(1–3):149–163.

Williamson, R. L., Hales, J. D., et al. (2020). BISON: A flexible code for advanced simulation of the performance of multiple nuclear fuel forms. *Nuclear Technology*. (*accepted for publication*).

Yagnik, S. K. (2000). Thermal conductivity recovery phenomenon in irradiated UO_2 and (U, Gd)O_2. In *Pro. In. Topical Meeting on LWR Fuel Performance*, Park City, Utah.

Yamaguchi, T., Kaneko, H., and Honda, Y. (1980). Measurements of thermal conductivity for $(U_{0.7}, Pu_{0.3})O_{2-x}$ fuels. Number PNCT–831-80-01.

Yamamoto, K., Hirosawa, T., Yoshikawa, K., Morozumi, K., and Nomura, S. (1993). Melting temperature and thermal conductivity of irradiated mixed oxide fuel. *J. Nucl. Mater.*, 204:85–92.

A. Experimental Thermal Conductivity Data

The thermal conductivity data presented here are collected from the open literature and untreated data are presented below.

Table A.1. Data sources for the thermal conductivity of UO_2, surveyed in this study. Each source is listed chronologically with relative fuel burnup (Bu), temperature (T), additive (e.g., Gd/Pu) contents (y), theoretical densities (TD), and oxygen-to-metal ratio (O/M).

Superscripts:
♮ data are from (International Atomic Energy Agency (IAEA), 1966, Table 1)
† the thermal conductivity is deduced from thermal diffusivity measurements. The density and specific heat capacities are computed using the relations in Lanning et al. (2005).
‡ from Siefken et al. (2000)
⋆ from Touloukian et al. (1971)
∗ from Brandt et al. (1976)
⋄ from Inoue (2000)

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
Norton et al. (1953)[⋆]							
	485.7	5.69	0	0	0	74	2.000
	672.2	4.39	0	0	0	74	2.000
	841.7	3.61	0	0	0	74	2.000
	968.2	3.14	0	0	0	74	2.000
	1098.2	2.80	0	0	0	74	2.000
	1298.2	2.51	0	0	0	74	2.000
Kingery et al. (1954)							
	473.2	5.94	0	0	0	73.3	2.000
	673.2	4.31	0	0	0	73.3	2.000
	873.2	3.31	0	0	0	73.3	2.000
	1073.2	2.76	0	0	0	73.3	2.000
	1273.2	2.55	0	0	0	73.3	2.000
	473.2	7.95	0	0	0	100	2.000
	673.2	5.77	0	0	0	100	2.000
	873.2	4.41	0	0	0	100	2.000
	1073.2	3.70	0	0	0	100	2.000
	1273.2	3.41	0	0	0	100	2.000
Scott (1958)[♮]							
	1073.2	3.36	0	0	0	96	2.005
	1173.2	3.03	0	0	0	96	2.005
	1273.2	2.77	0	0	0	96	2.005
	1373.2	2.57	0	0	0	96	2.005
Kingery (1959)							
	373.2	9.68	0	0	0	92.5	2.000
	473.2	7.35	0	0	0	92.5	2.000
	673.2	0.53	0	0	0	92.5	2.000
	873.2	4.08	0	0	0	92.5	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1073.2	3.15	0	0	0	92.5	2.000
	1273.2	3.12	0	0	0	92.5	2.000
	373.2	8.32	0	0	0	92.5	n/a
	373.2	2.94	0	0	0	90	2.180
Deem and Lucks (1959)⋆							
	373.2	7.1	0	0	0	91.9	2.000
	473.2	5.7	0	0	0	91.9	2.000
	573.2	4.8	0	0	0	91.9	2.000
	673.2	4.2	0	0	0	91.9	2.000
	773.2	3.7	0	0	0	91.9	2.000
	873.2	3.3	0	0	0	91.9	2.000
Brenden and Newkirk (1959)⋆							
	327.2	7.40	0	0	0	93.4	2.000
	396.2	6.80	0	0	0	93.4	2.000
	462.7	6.26	0	0	0	93.4	2.000
	496.2	5.94	0	0	0	93.4	2.000
	574.2	5.41	0	0	0	93.4	2.000
	672.7	4.76	0	0	0	93.4	2.000
	767.2	4.34	0	0	0	93.4	2.000
	874.2	3.86	0	0	0	93.4	2.000
	876.7	3.92	0	0	0	93.4	2.000
	885.7	3.83	0	0	0	93.4	2.000
	923.2	3.70	0	0	0	93.4	2.000
	966.2	3.56	0	0	0	93.4	2.000
	975.7	3.58	0	0	0	93.4	2.000
	1012.2	3.43	0	0	0	93.4	2.000
	1063.2	3.29	0	0	0	93.4	2.000
	1074.2	3.28	0	0	0	93.4	2.000
	1103.2	3.19	0	0	0	93.4	2.000
	1146.2	3.10	0	0	0	93.4	2.000
Lucks and Deem (1960)							
	323.2	8.65	0	0	0	100	2.000
	373.2	7.69	0	0	0	100	2.000
	473.2	6.30	0	0	0	100	2.000
	573.2	5.33	0	0	0	100	2.000
	673.2	4.62	0	0	0	100	2.000
	773.2	4.08	0	0	0	100	2.000
	873.2	3.65	0	0	0	100	2.000
	973.2	3.30	0	0	0	100	2.000
	1073.2	3.01	0	0	0	100	2.000
	373.2	8.42	0	0	0	100	2.000
	473.2	6.96	0	0	0	100	2.000
	573.2	5.93	0	0	0	100	2.000
	673.2	5.17	0	0	0	100	2.000
	773.2	4.58	0	0	0	100	2.000
	873.2	4.11	0	0	0	100	2.000
S. J. Paprocki (Ed.) et al. (1960)⋆							
	457.2	5.4	0	0	0	92	2.010
	513.2	5.2	0	0	0	92	2.010
	522.2	4.9	0	0	0	92	2.010
	557.2	4.4	0	0	0	92	2.010
	589.2	4.4	0	0	0	92	2.010
	610.2	4.5	0	0	0	92	2.010
	663.2	4.0	0	0	0	92	2.010
	713.2	4.0	0	0	0	92	2.010
	737.2	3.9	0	0	0	92	2.010
	815.2	3.6	0	0	0	92	2.010
	937.2	3.6	0	0	0	92	2.010
	1058.2	3.3	0	0	0	92	2.010
Howard and Gulvin (1960)							
	473.2	5.52	0	0	0	96	2.005
	573.2	4.92	0	0	0	96	2.005
	673.2	4.40	0	0	0	96	2.005
	773.2	3.96	0	0	0	96	2.005
	873.2	3.72	0	0	0	96	2.005
	973.2	3.46	0	0	0	96	2.005

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1073.2	3.22	0	0	0	96	2.005
	1173.2	3.04	0	0	0	96	2.005
	1273.2	2.86	0	0	0	96	2.005
	1373.2	2.76	0	0	0	96	2.005
	1473.2	2.66	0	0	0	96	2.005
	1573.2	2.60	0	0	0	96	2.005
Reiswig (1961)							
	1106.2	2.5	0	0	0	85	2.000
	1385.2	2.1	0	0	0	85	2.000
	1441.2	2.1	0	0	0	85	2.000
	1766.2	2.0	0	0	0	85	2.000
	2011.2	1.7	0	0	0	85	2.000
	2385.2	1.6	0	0	0	85	2.000
Howard and Gulvin (1961)*							
	338.2	3.35	0	0	0	100	2.180
	533.2	2.51	0	0	0	100	2.180
	628.2	2.26	0	0	0	100	2.180
	688.2	2.26	0	0	0	100	2.180
	758.2	2.09	0	0	0	100	2.180
	843.2	1.90	0	0	0	100	2.180
	943.2	1.92	0	0	0	100	2.180
	993.2	1.97	0	0	0	100	2.180
	1068.2	2.09	0	0	0	100	2.180
	1263.2	2.09	0	0	0	100	2.180
	1373.2	2.01	0	0	0	100	2.180
	1503.2	2.05	0	0	0	100	2.180
	1623.2	2.00	0	0	0	100	2.180
	466.2	5.52	0	0	0	98.41	2.000
	550.2	5.06	0	0	0	98.41	2.000
	653.2	4.52	0	0	0	98.41	2.000
	734.2	4.10	0	0	0	98.41	2.000
	913.2	3.60	0	0	0	98.41	2.000
	1025.2	3.26	0	0	0	98.41	2.000
	1169.2	3.05	0	0	0	98.41	2.000
	1338.2	2.76	0	0	0	98.41	2.000
	1428.2	2.68	0	0	0	98.41	2.000
	1598.2	2.59	0	0	0	98.41	2.000
	430.2	6.36	0	0	0	98.22	2.020
	543.2	5.65	0	0	0	98.22	2.020
	570.2	5.19	0	0	0	98.22	2.020
	810.2	4.06	0	0	0	98.22	2.020
	893.2	3.81	0	0	0	98.22	2.020
	998.2	3.64	0	0	0	98.22	2.020
	1103.2	3.35	0	0	0	98.22	2.020
	1198.2	3.18	0	0	0	98.22	2.020
	1308.2	2.97	0	0	0	98.22	2.020
	1423.2	2.76	0	0	0	98.22	2.020
	1513.2	2.59	0	0	0	98.22	2.020
	1613.2	2.47	0	0	0	98.22	2.020
	605.2	2.18	0	0	0	98.22	2.130
	673.2	2.09	0	0	0	98.22	2.130
	749.2	1.92	0	0	0	98.22	2.130
	830.2	1.84	0	0	0	98.22	2.130
	917.2	1.97	0	0	0	98.22	2.130
	1015.2	1.97	0	0	0	98.22	2.130
	1111.2	1.97	0	0	0	98.22	2.130
	1185.2	2.01	0	0	0	98.22	2.130
	1194.2	1.97	0	0	0	98.22	2.130
	1196.2	1.97	0	0	0	98.22	2.130
	463.2	5.86	0	0	0	97.66	2.000
	550.2	5.15	0	0	0	97.66	2.000
	632.2	4.90	0	0	0	97.66	2.000
	773.2	4.14	0	0	0	97.66	2.000
	915.2	3.6	0	0	0	97.66	2.000
	970.2	3.47	0	0	0	97.66	2.000
	1137.2	2.97	0	0	0	97.66	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1333.2	2.76	0	0	0	97.66	2.000
	1454.2	2.64	0	0	0	97.66	2.000
	1555.2	2.51	0	0	0	97.66	2.000
	419.2	7.24	0	0	0	96.91	2.000
	481.2	7.15	0	0	0	96.91	2.000
	496.2	6.74	0	0	0	96.91	2.000
	559.2	6.36	0	0	0	96.91	2.000
	641.2	5.69	0	0	0	96.91	2.000
	825.2	4.77	0	0	0	96.91	2.000
	923.2	4.35	0	0	0	96.91	2.000
	1045.2	3.85	0	0	0	96.91	2.000
	1277.2	3.26	0	0	0	96.91	2.000
	1390.2	3.01	0	0	0	96.91	2.000
	1518.2	2.80	0	0	0	96.91	2.000
	1586.2	2.64	0	0	0	96.91	2.000
	1656.2	2.26	0	0	0	96.91	2.000
	1193.2	3.37	0	0	0	98.22	2.000
	1193.2	3.27	0	0	0	98.22	2.000
	1193.2	2.64	0	0	0	98.22	2.020
	1193.2	2.58	0	0	0	98.22	2.030
	1193.2	2.48	0	0	0	98.22	2.040
	1193.2	2.37	0	0	0	98.22	2.050
	1193.2	2.29	0	0	0	98.22	2.060
	1193.2	2.09	0	0	0	98.22	2.070
	1193.2	2.11	0	0	0	98.22	2.080
	1193.2	2.09	0	0	0	98.22	2.090
	1193.2	2.06	0	0	0	98.22	2.100
	1193.2	2.03	0	0	0	98.22	2.110
	1193.2	1.99	0	0	0	98.22	2.120
	1193.2	1.99	0	0	0	78.73	2.130
Bethoux et al. (1961)*							
	3.8	0.70	0	0	0	94.06	2.000
	3.9	0.75	0	0	0	94.06	2.000
	4.4	0.94	0	0	0	94.06	2.000
	5.0	1.20	0	0	0	94.06	2.000
	5.1	1.22	0	0	0	94.06	2.000
	6.1	1.51	0	0	0	94.06	2.000
	7.1	1.80	0	0	0	94.06	2.000
	8.4	2.10	0	0	0	94.06	2.000
	9.2	2.50	0	0	0	94.06	2.000
	10.0	2.55	0	0	0	94.06	2.000
	11.0	2.60	0	0	0	94.06	2.000
	13.0	2.30	0	0	0	94.06	2.000
	15.0	1.80	0	0	0	94.06	2.000
	17.5	1.50	0	0	0	94.06	2.000
	26.0	0.95	0	0	0	94.06	2.000
	28.0	0.85	0	0	0	94.06	2.000
	30.0	0.81	0	0	0	94.06	2.000
	31.0	0.76	0	0	0	94.06	2.000
	34.0	0.80	0	0	0	94.06	2.000
	38.0	1.10	0	0	0	94.06	2.000
	45.0	1.50	0	0	0	94.06	2.000
	50.0	1.90	0	0	0	94.06	2.000
	55.0	2.30	0	0	0	94.06	2.000
	65.0	2.80	0	0	0	94.06	2.000
	75.0	3.45	0	0	0	94.06	2.000
	80.0	3.90	0	0	0	94.06	2.000
	90.0	4.40	0	0	0	94.06	2.000
	95.0	4.55	0	0	0	94.06	2.000
	99.0	4.90	0	0	0	94.06	2.000
	100.0	5.05	0	0	0	94.06	2.000
	190.0	8.50	0	0	0	94.06	2.000
	294.0	11.00	0	0	0	94.06	2.000
Martin and Weir (1961)							
	478.0	6.34	0	0	0	95	2.000
	478.1	6.45	0	0	0	95	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	580.8	5.34	0	0	0	95	2.000
	677.9	4.60	0	0	0	95	2.000
	781.3	4.03	0	0	0	95	2.000
	376.0	7.98	0	0	0	95	2.000
	373.6	8.51	0	0	0	95	2.000
	475.7	6.97	0	0	0	95	2.000
	532.6	5.95	0	0	0	95	2.000
	675.6	5.20	0	0	0	95	2.000
	779.0	4.61	0	0	0	95	2.000
	873.4	4.12	0	0	0	95	2.000
	478.2	6.51	0	0	0	95	2.000
	577.9	5.45	0	0	0	95	2.000
	674.9	4.69	0	0	0	95	2.000
	781.1	3.87	0	0	0	95	2.000
	872.5	3.44	0	0	0	95	2.000
	979.3	3.13	0	0	0	95	2.000
	1070.9	2.88	0	0	0	95	2.000
	375.7	7.75	0	0	0	95	2.000
	675.0	4.77	0	0	0	95	2.000
	781.5	4.18	0	0	0	95	2.000
	872.9	3.75	0	0	0	95	2.000
	979.7	3.41	0	0	0	95	2.000
	1071.3	3.11	0	0	0	95	2.000
Daniel et al. (1962)							
	546.2	5.42	0	0	0	96.5	2.000
	566.2	5.35	0	0	0	96.5	2.000
	670.2	4.87	0	0	0	96.5	2.000
	705.2	4.47	0	0	0	96.5	2.000
	674.2	4.69	0	0	0	96.5	2.000
	877.2	3.92	0	0	0	96.5	2.000
	1081.2	3.26	0	0	0	96.5	2.000
	1157.2	3.37	0	0	0	96.5	2.000
	1191.2	2.99	0	0	0	96.5	2.000
	1308.2	2.56	0	0	0	96.5	2.000
	1335.2	2.48	0	0	0	96.5	2.000
	403.2	7.27	0	0	0	96.5	2.000
	413.2	7.11	0	0	0	96.5	2.000
	529.2	5.88	0	0	0	96.5	2.000
	536.2	5.98	0	0	0	96.5	2.000
	550.2	5.65	0	0	0	96.5	2.000
	558.2	5.84	0	0	0	96.5	2.000
	622.2	5.42	0	0	0	96.5	2.000
	634.2	5.20	0	0	0	96.5	2.000
	653.2	5.20	0	0	0	96.5	2.000
	661.2	5.16	0	0	0	96.5	2.000
	749.2	4.80	0	0	0	96.5	2.000
	790.2	4.60	0	0	0	96.5	2.000
	965.2	3.82	0	0	0	96.5	2.000
	1022.2	3.86	0	0	0	96.5	2.000
	1271.2	3.37	0	0	0	96.5	2.000
	1393.2	2.84	0	0	0	96.5	2.000
	1407.2	3.06	0	0	0	96.5	2.000
	1506.2	2.64	0	0	0	96.5	2.000
	1552.2	3.14	0	0	0	96.5	2.000
	747.2	4.03	0	0	0	96.5	2.000
	803.2	3.97	0	0	0	96.5	2.000
	1011.2	2.92	0	0	0	96.5	2.000
	1103.2	2.97	0	0	0	96.5	2.000
	1220.2	2.58	0	0	0	96.5	2.000
	1371.2	2.56	0	0	0	96.5	2.000
	1392.2	2.36	0	0	0	96.5	2.000
	1424.2	2.36	0	0	0	96.5	2.000
	1614.2	2.18	0	0	0	96.5	2.000
	461.2	2.07	0	0	0	86.8	2.002
	554.2	1.67	0	0	0	86.8	2.002
	583.2	2.04	0	0	0	86.8	2.002

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	670.2	2.04	0	0	0	86.8	2.002
	945.2	1.61	0	0	0	86.8	2.002
	963.2	1.99	0	0	0	86.8	2.002
	1161.2	2.05	0	0	0	86.8	2.002
	424.2	2.12	0	0	0	86.8	2.002
	637.2	1.99	0	0	0	86.8	2.002
	747.2	1.81	0	0	0	86.8	2.002
	980.2	1.57	0	0	0	86.8	2.002
	1045.2	3.11	0	0	0	86.8	2.002
	1069.2	1.52	0	0	0	86.8	2.002
	1168.2	3.08	0	0	0	86.8	2.002
	526.2	7.06	0	0	0	93.2	2.006
	542.2	5.79	0	0	0	93.2	2.006
	548.2	7.33	0	0	0	93.2	2.006
	565.2	6.32	0	0	0	93.2	2.006
	692.2	5.49	0	0	0	93.2	2.006
	733.2	4.72	0	0	0	93.2	2.006
	821.2	3.89	0	0	0	93.2	2.006
	887.2	4.05	0	0	0	93.2	2.006
	997.2	3.25	0	0	0	93.2	2.006
	1052.2	4.26	0	0	0	93.2	2.006
	1052.2	3.74	0	0	0	93.2	2.006
	1172.2	3.73	0	0	0	93.2	2.006
	1172.2	2.95	0	0	0	93.2	2.006
	1317.2	2.96	0	0	0	93.2	2.006
	514.2	6.92	0	0	0	92.9	2.000
	638.2	5.13	0	0	0	92.9	2.000
	646.2	5.91	0	0	0	92.9	2.000
	670.2	6.08	0	0	0	92.9	2.000
	763.2	4.61	0	0	0	92.9	2.000
	815.2	5.05	0	0	0	92.9	2.000
	843.2	4.34	0	0	0	92.9	2.000
	905.2	4.23	0	0	0	92.9	2.000
	910.2	4.30	0	0	0	92.9	2.000
	945.2	3.86	0	0	0	92.9	2.000
	979.2	4.38	0	0	0	92.9	2.000
	986.2	4.00	0	0	0	92.9	2.000
	1037.2	3.83	0	0	0	92.9	2.000
	1095.2	3.54	0	0	0	92.9	2.000
	1210.2	3.04	0	0	0	92.9	2.000
	1228.2	3.20	0	0	0	92.9	2.000
	1337.2	2.92	0	0	0	92.9	2.000
	1359.2	2.82	0	0	0	92.9	2.000
	1439.2	2.91	0	0	0	92.9	2.000
	1449.2	2.68	0	0	0	92.9	2.000
	1408.2	2.51	0	0	0	92.9	2.000
	1705.2	2.33	0	0	0	92.9	2.000
	363.2	7.67	0	0	0	87.1	2.002
	440.2	6.79	0	0	0	87.1	2.002
	494.2	6.22	0	0	0	87.1	2.002
	531.2	6.18	0	0	0	87.1	2.002
	572.2	5.27	0	0	0	87.1	2.002
	631.2	5.05	0	0	0	87.1	2.002
	711.2	4.55	0	0	0	87.1	2.002
	771.2	3.90	0	0	0	87.1	2.002
	828.2	3.57	0	0	0	87.1	2.002
	914.2	3.68	0	0	0	87.1	2.002
	1007.2	3.12	0	0	0	87.1	2.002
	364.2	7.52	0	0	0	91.7	2.002
	440.2	6.85	0	0	0	91.7	2.002
	528.2	5.97	0	0	0	91.7	2.002
	586.2	5.17	0	0	0	91.7	2.002
	656.2	4.70	0	0	0	91.7	2.002
	751.2	3.95	0	0	0	91.7	2.002
	821.2	3.74	0	0	0	91.7	2.002
	882.2	3.66	0	0	0	91.7	2.002
	378.2	7.79	0	0	0	95.3	2.002

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	431.2	7.18	0	0	0	95.3	2.002
	463.2	6.40	0	0	0	95.3	2.002
	604.2	5.38	0	0	0	95.3	2.002
	661.2	4.74	0	0	0	95.3	2.002
	747.2	3.97	0	0	0	95.3	2.002
	881.2	3.76	0	0	0	95.3	2.002
	1031.2	3.02	0	0	0	95.3	2.002
	361.2	9.06	0	0	0	93.2	2.002
	402.2	8.11	0	0	0	93.2	2.002
	460.2	6.86	0	0	0	93.2	2.002
	555.2	6.01	0	0	0	93.2	2.002
	635.2	5.53	0	0	0	93.2	2.002
	691.2	5.08	0	0	0	93.2	2.002
	799.2	4.79	0	0	0	93.2	2.002
Godfrey et al. (1962a)*							
	499.2	5.63	0	0	0	93.4	2.000
	532.2	5.38	0	0	0	93.4	2.000
	556.2	5.23	0	0	0	93.4	2.000
	594.2	5.02	0	0	0	93.4	2.000
	621.2	4.84	0	0	0	93.4	2.000
	648.2	4.72	0	0	0	93.4	2.000
	664.2	4.62	0	0	0	93.4	2.000
	697.2	4.49	0	0	0	93.4	2.000
	709.2	4.46	0	0	0	93.4	2.000
	716.2	4.42	0	0	0	93.4	2.000
	746.2	4.27	0	0	0	93.4	2.000
	773.2	4.20	0	0	0	93.4	2.000
	802.2	4.10	0	0	0	93.4	2.000
	833.2	3.98	0	0	0	93.4	2.000
	857.2	3.91	0	0	0	93.4	2.000
	882.2	3.85	0	0	0	93.4	2.000
Godfrey et al. (1962b)*							
	300.2	7.32	0	0	0	93.4	2.000
	328.2	6.74	0	0	0	93.4	2.000
	350.2	6.60	0	0	0	93.4	2.000
	354.2	6.56	0	0	0	93.4	2.000
	364.2	6.48	0	0	0	93.4	2.000
	380.2	6.40	0	0	0	93.4	2.000
	395.2	6.34	0	0	0	93.4	2.000
	427.2	6.08	0	0	0	93.4	2.000
	447.2	5.96	0	0	0	93.4	2.000
	468.2	5.82	0	0	0	93.4	2.000
Godfrey et al. (1962c)*							
	373.2	7.20	0	0	0	93.4	2.000
	475.2	6.32	0	0	0	93.4	2.000
	675.2	4.95	0	0	0	93.4	2.000
	869.9	4.12	0	0	0	93.4	2.000
	870.2	4.08	0	0	0	93.4	2.000
	970.7	3.75	0	0	0	93.4	2.000
	1071.7	3.43	0	0	0	93.4	2.000
	1164.9	3.22	0	0	0	93.4	2.000
	1173.2	3.21	0	0	0	93.4	2.000
	1279.2	2.99	0	0	0	93.4	2.000
	1282.7	2.97	0	0	0	93.4	2.000
	1372.2	2.85	0	0	0	93.4	2.000
	1465.2	2.71	0	0	0	93.4	2.000
	571.7	5.56	0	0	0	93.4	2.000
	870.2	4.02	0	0	0	93.4	2.000
	870.2	3.97	0	0	0	93.4	2.000
	871.7	3.96	0	0	0	93.4	2.000
	1171.2	3.12	0	0	0	93.4	2.000
	1175.2	3.10	0	0	0	93.4	2.000
	1377.2	2.80	0	0	0	93.4	2.000
	1474.7	2.63	0	0	0	93.4	2.000
	1475.2	2.58	0	0	0	93.4	2.000
	1571.2	2.56	0	0	0	93.4	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
Dean (1962)⋆							
	338.2	6.89	0	0	0	93	2.000
	338.2	6.78	0	0	0	93	2.000
	338.7	6.46	0	0	0	93	2.000
	339.8	7.37	0	0	0	93	2.000
	465.4	5.37	0	0	0	93	2.000
	465.4	4.90	0	0	0	93	2.000
	465.9	5.17	0	0	0	93	2.000
	465.9	5.64	0	0	0	93	2.000
	594.8	4.71	0	0	0	93	2.000
	595.4	4.57	0	0	0	93	2.000
	595.4	4.45	0	0	0	93	2.000
	720.9	4.45	0	0	0	93	2.000
	721.5	4.34	0	0	0	93	2.000
	723.3	4.02	0	0	0	93	2.000
	723.7	4.17	0	0	0	93	2.000
Porneuf (1962)⋆							
	523.2	6.99	0	0	0	98.41	2.000
	523.2	6.78	0	0	0	98.41	2.000
Feith (1963)⋆							
	834	4.64	0	0	0	95.63	2.000
	1124	3.72	0	0	0	95.63	2.000
	1331	3.35	0	0	0	95.63	2.000
	1486	3.15	0	0	0	95.63	2.000
	1600	3.07	0	0	0	95.63	2.000
	1753	2.99	0	0	0	95.63	2.000
	1889	2.97	0	0	0	95.63	2.000
	2001	3.01	0	0	0	95.63	2.000
	2211	3.12	0	0	0	95.63	2.000
	2322	3.19	0	0	0	95.63	2.000
	2518	3.39	0	0	0	95.63	2.000
Lyons et al. (1963)⋆							
	2153.2	2.23	0	0	0	95	2.000
	2258.2	1.98	0	0	0	95	2.000
	2268.2	1.05	0	0	0	95	2.000
	2270.2	1.70	0	0	0	95	2.000
	2271.2	2.05	0	0	0	95	2.000
	2338.2	2.50	0	0	0	95	2.000
	2348.2	1.22	0	0	0	95	2.000
	2393.2	1.92	0	0	0	95	2.000
	2408.2	1.25	0	0	0	95	2.000
	2423.2	1.65	0	0	0	95	2.000
	2428.2	1.75	0	0	0	95	2.000
	2488.2	2.25	0	0	0	95	2.000
	2498.2	1.72	0	0	0	95	2.000
	2518.2	1.55	0	0	0	95	2.000
	2538.2	1.35	0	0	0	95	2.000
	2573.2	1.55	0	0	0	95	2.000
	2588.2	1.67	0	0	0	95	2.000
	2613.2	1.78	0	0	0	95	2.000
	2623.2	2.15	0	0	0	95	2.000
	2648.2	1.22	0	0	0	95	2.000
	2668.2	1.55	0	0	0	95	2.000
	2675.2	1.85	0	0	0	95	2.000
	2708.2	1.98	0	0	0	95	2.000
	2713.2	2.20	0	0	0	95	2.000
Daniel and Bates (1963)⋆							
	358.2	2.87	0.45	0	0	100	2.000
	378.2	2.79	0.45	0	0	100	2.000
	395.2	2.75	0.45	0	0	100	2.000
	408.2	2.82	0.45	0	0	100	2.000
	419.2	2.92	0.45	0	0	100	2.000
	471.2	2.94	0.45	0	0	100	2.000
	501.2	2.99	0.45	0	0	100	2.000
	513.2	3.06	0.45	0	0	100	2.000
	421.2	3.21	0.45	0	0	100	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	431.2	3.35	0.45	0	0	100	2.000
	442.2	3.39	0.45	0	0	100	2.000
	573.2	3.28	0.45	0	0	100	2.000
	617.2	3.1	0.45	0	0	100	2.000
Deem and Matolich (1963)*							
	373.2	8.00	0.00	0	0	99.4	2.003
	473.2	6.90	0.00	0	0	99.4	2.003
	673.2	5.80	0.00	0	0	99.4	2.003
	873.2	5.40	0.00	0	0	99.4	2.003
	1073.2	5.40	0.00	0	0	99.4	2.003
	1273.2	5.90	0.00	0	0	99.4	2.003
	1473.2	7.10	0.00	0	0	99.4	2.003
	473.2	5.80	0.00	0	0	99.4	2.003
	673.2	4.40	0.00	0	0	99.4	2.003
	873.2	4.00	0.00	0	0	99.4	2.003
	1073.2	4.00	0.00	0	0	99.4	2.003
	1273.2	4.10	0.00	0	0	99.4	2.003
	473.2	6.90	0.00	0	0	99.4	2.003
	673.2	5.80	0.00	0	0	99.4	2.003
	873.2	5.40	0.00	0	0	99.4	2.003
	1073.2	5.40	0.00	0	0	99.4	2.003
	471.2	6.07	0.58	0	0	94.5	2.000
	473.2	5.92	0.58	0	0	94.5	2.000
	379.2	2.88	1.13	0	0	85.7	2.000
	393.2	2.77	1.13	0	0	85.7	2.000
	394.2	2.86	1.13	0	0	85.7	2.000
	396.2	2.98	1.13	0	0	85.7	2.000
	408.2	2.71	1.13	0	0	85.7	2.000
	411.2	2.96	1.13	0	0	85.7	2.000
	413.2	2.85	1.13	0	0	85.7	2.000
	429.2	2.94	1.13	0	0	85.7	2.000
	501.2	2.99	1.13	0	0	85.7	2.000
	527.2	3.42	1.13	0	0	85.7	2.000
	544.2	3.14	1.13	0	0	85.7	2.000
	553.2	3.31	1.13	0	0	85.7	2.000
	577.2	3.46	1.13	0	0	85.7	2.000
	609.2	3.09	1.13	0	0	85.7	2.000
Bogaievski et al. (1963)*							
	639.8	6.1	0	0	0	99.34	2.000
	640.7	5.5	0	0	0	99.34	2.000
	670.7	5.5	0	0	0	99.34	2.000
	680.7	4.9	0	0	0	99.34	2.000
	738.2	4.8	0	0	0	99.34	2.000
Christensen et al. (1964)‡							
	1310	2.87	0	0	0	94	2.000
	1289	2.87	0	0	0	94	2.000
	1432	2.70	0	0	0	94	2.000
	1496	2.72	0	0	0	94	2.000
	1552	2.71	0	0	0	94	2.000
	1587	2.56	0	0	0	94	2.000
	1612	2.57	0	0	0	94	2.000
	1656	2.80	0	0	0	94	2.000
	1747	2.48	0	0	0	94	2.000
	1838	2.59	0	0	0	94	2.000
Godfrey et al. (1964)							
	328.2	6.73	0	0	0	93.4	2.000
	350.2	6.61	0	0	0	93.4	2.000
	354.2	6.55	0	0	0	93.4	2.000
	364.7	6.48	0	0	0	93.4	2.000
	380.2	6.40	0	0	0	93.4	2.000
	394.7	6.33	0	0	0	93.4	2.000
	427.6	6.09	0	0	0	93.4	2.000
	447.7	5.96	0	0	0	93.4	2.000
	468.2	5.82	0	0	0	93.4	2.000
	499.2	5.63	0	0	0	93.4	2.000
	532.2	5.38	0	0	0	93.4	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	556.2	5.23	0	0	0	93.4	2.000
	594.2	5.02	0	0	0	93.4	2.000
	621.2	4.84	0	0	0	93.4	2.000
	648.2	4.72	0	0	0	93.4	2.000
	664.2	4.62	0	0	0	93.4	2.000
	697.2	4.49	0	0	0	93.4	2.000
	709.2	4.46	0	0	0	93.4	2.000
	716.2	4.42	0	0	0	93.4	2.000
	746.2	4.27	0	0	0	93.4	2.000
	773.2	4.20	0	0	0	93.4	2.000
	802.2	4.10	0	0	0	93.4	2.000
	832.7	3.98	0	0	0	93.4	2.000
	857.7	3.91	0	0	0	93.4	2.000
	882.2	3.85	0	0	0	93.4	2.000
	885.7	3.83	0	0	0	93.4	2.000
	923.2	3.70	0	0	0	93.4	2.000
	966.2	3.56	0	0	0	93.4	2.000
	1012.2	3.43	0	0	0	93.4	2.000
	1063.7	3.29	0	0	0	93.4	2.000
	1103.2	3.19	0	0	0	93.4	2.000
	1146.2	3.10	0	0	0	93.4	2.000
	874.2	3.86	0	0	0	93.4	2.000
	496.2	5.94	0	0	0	93.4	2.000
	500.2	5.90	0	0	0	93.4	2.000
	327.2	7.40	0	0	0	93.4	2.000
	396.2	6.80	0	0	0	93.4	2.000
	462.7	6.26	0	0	0	93.4	2.000
	574.2	5.41	0	0	0	93.4	2.000
	672.7	4.76	0	0	0	93.4	2.000
	767.2	4.34	0	0	0	93.4	2.000
	876.7	3.92	0	0	0	93.4	2.000
	975.7	3.58	0	0	0	93.4	2.000
	1074.2	3.28	0	0	0	93.4	2.000
	373.2	6.72	0	0	0	93.4	2.000
	475.2	5.91	0	0	0	93.4	2.000
	675.2	4.62	0	0	0	93.4	2.000
	870.2	3.81	0	0	0	93.4	2.000
	869.2	3.85	0	0	0	93.4	2.000
	880.7	3.50	0	0	0	93.4	2.000
	1071.7	3.20	0	0	0	93.4	2.000
	1165.2	3.01	0	0	0	93.4	2.000
	1173.2	3.00	0	0	0	93.4	2.000
	1279.2	2.80	0	0	0	93.4	2.000
	1282.2	2.78	0	0	0	93.4	2.000
	1372.2	2.66	0	0	0	93.4	2.000
	1465.2	2.53	0	0	0	93.4	2.000
	571.7	5.20	0	0	0	93.4	2.000
	870.2	3.75	0	0	0	93.4	2.000
	870.2	3.71	0	0	0	93.4	2.000
	871.7	3.70	0	0	0	93.4	2.000
	1171.2	2.91	0	0	0	93.4	2.000
	1175.2	2.89	0	0	0	93.4	2.000
	1377.2	2.62	0	0	0	93.4	2.000
	1474.7	2.46	0	0	0	93.4	2.000
	1475.2	2.41	0	0	0	93.4	2.000
	1571.2	2.39	0	0	0	93.4	2.000
	382.2	6.50	0	0	0	93.4	2.000
	383.2	6.51	0	0	0	93.4	2.000
	474.2	5.81	0	0	0	93.4	2.000
	473.2	5.76	0	0	0	93.4	2.000
	569.7	5.15	0	0	0	93.4	2.000
	571.7	5.12	0	0	0	93.4	2.000
	673.2	4.60	0	0	0	93.4	2.000
	673.2	4.57	0	0	0	93.4	2.000
	774.2	4.09	0	0	0	93.4	2.000
	774.2	4.11	0	0	0	93.4	2.000
	874.7	3.73	0	0	0	93.4	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	874.7	3.75	0	0	0	93.4	2.000
	973.2	3.43	0	0	0	93.4	2.000
	973.2	3.43	0	0	0	93.4	2.000
	1071.2	3.19	0	0	0	93.4	2.000
	1071.2	3.18	0	0	0	93.4	2.000
	1173.2	2.97	0	0	0	93.4	2.000
	1271.2	2.77	0	0	0	93.4	2.000
	1323.2	2.70	0	0	0	93.4	2.000
	1372.2	2.62	0	0	0	93.4	2.000
	1372.2	2.62	0	0	0	93.4	2.000
	1422.2	2.54	0	0	0	93.4	2.000
	1423.2	2.53	0	0	0	93.4	2.000
	1468.2	2.48	0	0	0	93.4	2.000
	1521.2	2.42	0	0	0	93.4	2.000
	1523.2	2.43	0	0	0	93.4	2.000
	1569.2	2.34	0	0	0	93.4	2.000
	1569.2	2.33	0	0	0	93.4	2.000
	1569.2	2.32	0	0	0	93.4	2.000
	376.2	6.80	0	0	0	93.4	2.000
	376.2	6.75	0	0	0	93.4	2.000
	576.2	5.24	0	0	0	93.4	2.000
	576.2	5.24	0	0	0	93.4	2.000
	670.7	4.70	0	0	0	93.4	2.000
	670.7	4.70	0	0	0	93.4	2.000
	670.7	4.71	0	0	0	93.4	2.000
	874.2	3.84	0	0	0	93.4	2.000
	323.2	7.14	0	0	0	93.4	2.000
	324.2	7.06	0	0	0	93.4	2.000
	325.2	7.11	0	0	0	93.4	2.000
	377.2	6.65	0	0	0	93.4	2.000
	377.2	6.66	0	0	0	93.4	2.000
	379.2	6.69	0	0	0	93.4	2.000
	378.2	6.53	0	0	0	93.4	2.000
	378.2	6.53	0	0	0	93.4	2.000
	380.2	6.53	0	0	0	93.4	2.000
	382.2	6.69	0	0	0	93.4	2.000
	325.2	6.90	0	0	0	93.4	2.000
	377.2	6.49	0	0	0	93.4	2.000
	377.2	6.49	0	0	0	93.4	2.000
	379.2	6.53	0	0	0	93.4	2.000
	378.2	6.42	0	0	0	93.4	2.000
	378.2	6.42	0	0	0	93.4	2.000
	380.2	6.42	0	0	0	93.4	2.000
	382.2	6.53	0	0	0	93.4	2.000
Vogt et al. (1964)[♮]							
	473.2	6.27	0	0	0	97	2.005
	573.2	5.52	0	0	0	97	2.005
	673.2	4.90	0	0	0	97	2.005
	773.2	4.35	0	0	0	97	2.005
	873.2	4.00	0	0	0	97	2.005
	973.2	3.67	0	0	0	97	2.005
	1073.2	3.40	0	0	0	97	2.005
	1173.2	3.20	0	0	0	97	2.005
	1273.2	3.00	0	0	0	97	2.005
	1373.2	2.92	0	0	0	97	2.005
	1473.2	2.85	0	0	0	97	2.005
	1573.2	2.76	0	0	0	97	2.005
	1673.2	2.70	0	0	0	97	2.005
	1873.2	2.65	0	0	0	97	2.005
	2073.2	2.62	0	0	0	97	2.005
	2273.2	2.60	0	0	0	97	2.005
Stora et al. (1964)							
	473.2	5.95	0	0	0	95	2.000
	673.2	4.78	0	0	0	95	2.000
	873.2	3.90	0	0	0	95	2.000
	1073.2	3.28	0	0	0	95	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1273.2	2.82	0	0	0	95	2.000
	1473.2	2.49	0	0	0	95	2.000
	1673.2	2.30	0	0	0	95	2.000
	1873.2	2.23	0	0	0	95	2.000
	2073.2	2.29	0	0	0	95	2.000
	2273.2	2.47	0	0	0	95	2.000
	2473.2	2.75	0	0	0	95	2.000
	2673.2	3.16	0	0	0	95	2.000
	2773.2	3.40	0	0	0	95	2.000
Hetzler and Zebroski (1964)*							
	1073.2	3.20	0	0	0	94	2.000
	1373.2	2.70	0	0	0	94	2.000
	1473.2	2.50	0	0	0	94	2.000
	1673.2	2.30	0	0	0	94	2.000
	1873.2	2.10	0	0	0	94	2.000
	2073.2	2.00	0	0	0	94	2.000
Sievers and Pohl (1964)*							
	1.4	0.50	0	0	0	100	2.000
	1.5	0.68	0	0	0	100	2.000
	1.7	0.87	0	0	0	100	2.000
	1.8	1.10	0	0	0	100	2.000
	2.1	1.28	0	0	0	100	2.000
	2.3	1.95	0	0	0	100	2.000
	2.5	2.39	0	0	0	100	2.000
	2.8	0.32	0	0	0	100	2.000
	3.1	3.59	0	0	0	100	2.000
	3.1	3.88	0	0	0	100	2.000
	3.5	5.15	0	0	0	100	2.000
	3.7	5.22	0	0	0	100	2.000
	4.0	6.58	0	0	0	100	2.000
	4.7	6.97	0	0	0	100	2.000
	4.9	7.94	0	0	0	100	2.000
	5.7	8.85	0	0	0	100	2.000
	5.7	9.62	0	0	0	100	2.000
	6.9	10.10	0	0	0	100	2.000
	7.0	10.70	0	0	0	100	2.000
	8.0	10.10	0	0	0	100	2.000
	8.2	10.50	0	0	0	100	2.000
	9.2	9.82	0	0	0	100	2.000
	9.3	9.68	0	0	0	100	2.000
	10.5	8.47	0	0	0	100	2.000
	11.7	6.50	0	0	0	100	2.000
	11.9	6.17	0	0	0	100	2.000
	13.4	5.26	0	0	0	100	2.000
	13.4	4.92	0	0	0	100	2.000
	14.9	3.83	0	0	0	100	2.000
	15.0	3.50	0	0	0	100	2.000
	15.2	3.34	0	0	0	100	2.000
	16.1	2.96	0	0	0	100	2.000
	16.9	2.55	0	0	0	100	2.000
	17.0	2.47	0	0	0	100	2.000
	19.0	1.95	0	0	0	100	2.000
	20.8	1.53	0	0	0	100	2.000
	22.9	1.34	0	0	0	100	2.000
	23.7	1.21	0	0	0	100	2.000
	25.4	1.13	0	0	0	100	2.000
	26.7	0.97	0	0	0	100	2.000
	27.9	0.94	0	0	0	100	2.000
	31.8	0.98	0	0	0	100	2.000
	33.9	1.10	0	0	0	100	2.000
	36.5	1.12	0	0	0	100	2.000
	36.9	1.18	0	0	0	100	2.000
	41.9	1.50	0	0	0	100	2.000
	41.9	1.56	0	0	0	100	2.000
	45.7	1.85	0	0	0	100	2.000
	48.6	2.05	0	0	0	100	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	50.4	2.39	0	0	0	100	2.000
	56.0	2.70	0	0	0	100	2.000
	57.0	2.66	0	0	0	100	2.000
	59.6	3.10	0	0	0	100	2.000
	66.7	4.14	0	0	0	100	2.000
	78.5	4.83	0	0	0	100	2.000
	96.2	6.84	0	0	0	100	2.000
	112.5	7.78	0	0	0	100	2.000
	117.8	8.79	0	0	0	100	2.000
	148.9	10.50	0	0	0	100	2.000
	167.5	11.80	0	0	0	100	2.000
	204.2	12.80	0	0	0	100	2.000
Nishijima et al. (1965)							
	2375.1	4.20	0	0	0	100	2.003
	2246.0	3.69	0	0	0	100	2.003
	2172.5	3.36	0	0	0	100	2.003
	1941.2	2.66	0	0	0	100	2.003
	1863.5	2.55	0	0	0	100	2.003
	1770.1	2.29	0	0	0	100	2.003
	1667.9	2.15	0	0	0	100	2.003
	1596.9	2.06	0	0	0	100	2.003
	2154.9	3.52	0	0	0	100	2.003
	2119.2	3.27	0	0	0	100	2.003
	2074.5	2.88	0	0	0	100	2.003
	2016.7	2.81	0	0	0	100	2.003
	1994.5	2.73	0	0	0	100	2.003
	1985.5	2.62	0	0	0	100	2.003
	1961.1	2.59	0	0	0	100	2.003
	1865.5	2.33	0	0	0	100	2.003
	1834.1	2.01	0	0	0	100	2.003
	1741.0	2.07	0	0	0	100	2.003
	1718.9	2.09	0	0	0	100	2.003
	1716.6	1.98	0	0	0	100	2.003
	1637.0	2.28	0	0	0	100	2.003
	1605.9	2.26	0	0	0	100	2.003
	1590.3	2.19	0	0	0	100	2.003
	1508.3	2.23	0	0	0	100	2.003
	1477.2	2.12	0	0	0	100	2.003
	1461.7	2.17	0	0	0	100	2.003
	1432.9	2.25	0	0	0	100	2.003
	1446.4	2.43	0	0	0	100	2.003
	1353.2	2.30	0	0	0	100	2.003
	1366.6	2.45	0	0	0	100	2.003
	1304.8	2.79	0	0	0	100	2.003
	1284.9	2.79	0	0	0	100	2.003
	1229.4	2.77	0	0	0	100	2.003
	1238.4	2.96	0	0	0	100	2.003
	857.9	3.87	0	0	0	100	2.003
	889.0	3.98	0	0	0	100	2.003
	798.4	4.32	0	0	0	100	2.003
	754.4	4.71	0	0	0	100	2.003
	690.3	4.91	0	0	0	100	2.003
	681.8	5.26	0	0	0	100	2.003
	644.0	5.19	0	0	0	100	2.003
	582.4	5.73	0	0	0	100	2.003
	593.6	5.82	0	0	0	100	2.003
	618.0	5.88	0	0	0	100	2.003
	565.0	6.04	0	0	0	100	2.003
	556.3	6.30	0	0	0	100	2.003
	534.1	6.25	0	0	0	100	2.003
Wheeler (1965)							
	1250.3	3.09	0	0	0	95	2.000
	1316.1	2.92	0	0	0	95	2.000
	1372.5	2.90	0	0	0	95	2.000
	1404.5	2.73	0	0	0	95	2.000
	1415.8	2.69	0	0	0	95	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1427.0	2.79	0	0	0	95	2.000
	1445.9	2.71	0	0	0	95	2.000
	1460.9	2.68	0	0	0	95	2.000
	1489.0	2.71	0	0	0	95	2.000
	1513.6	2.55	0	0	0	95	2.000
	1549.3	2.50	0	0	0	95	2.000
	1560.5	2.53	0	0	0	95	2.000
	1594.3	2.55	0	0	0	95	2.000
	1618.9	2.42	0	0	0	95	2.000
	1624.5	2.47	0	0	0	95	2.000
	1647.0	2.40	0	0	0	95	2.000
	1637.5	2.55	0	0	0	95	2.000
	1646.9	2.55	0	0	0	95	2.000
	1665.7	2.57	0	0	0	95	2.000
	1665.8	2.45	0	0	0	95	2.000
	1697.8	2.38	0	0	0	95	2.000
Godfrey et al. (1965)							
	328.2	6.73	0	0	0	93.4	2.000
	350.2	6.61	0	0	0	93.4	2.000
	354.2	6.55	0	0	0	93.4	2.000
	364.7	6.47	0	0	0	93.4	2.000
	380.2	6.39	0	0	0	93.4	2.000
	394.7	6.32	0	0	0	93.4	2.000
	427.7	6.08	0	0	0	93.4	2.000
	447.7	5.96	0	0	0	93.4	2.000
	468.2	5.82	0	0	0	93.4	2.000
	499.2	5.63	0	0	0	93.4	2.000
	532.2	5.38	0	0	0	93.4	2.000
	556.2	5.23	0	0	0	93.4	2.000
	594.2	5.01	0	0	0	93.4	2.000
	621.2	4.85	0	0	0	93.4	2.000
	648.2	4.71	0	0	0	93.4	2.000
	664.2	4.61	0	0	0	93.4	2.000
	697.2	4.48	0	0	0	93.4	2.000
	709.2	4.44	0	0	0	93.4	2.000
	716.2	4.40	0	0	0	93.4	2.000
	746.2	4.26	0	0	0	93.4	2.000
	773.2	4.19	0	0	0	93.4	2.000
	802.2	4.08	0	0	0	93.4	2.000
	832.7	3.97	0	0	0	93.4	2.000
	857.7	3.89	0	0	0	93.4	2.000
	882.2	3.84	0	0	0	93.4	2.000
	885.7	3.81	0	0	0	93.4	2.000
	923.2	3.68	0	0	0	93.4	2.000
	966.2	3.54	0	0	0	93.4	2.000
	1012.2	3.41	0	0	0	93.4	2.000
	1063.7	3.27	0	0	0	93.4	2.000
	1103.2	3.27	0	0	0	93.4	2.000
	1146.2	3.08	0	0	0	93.4	2.000
	874.2	3.84	0	0	0	93.4	2.000
	496.2	5.93	0	0	0	93.4	2.000
	500.2	5.89	0	0	0	93.4	2.000
	327.2	7.40	0	0	0	93.4	2.000
	396.2	6.79	0	0	0	93.4	2.000
	462.7	6.26	0	0	0	93.4	2.000
	574.2	5.40	0	0	0	93.4	2.000
	672.7	4.75	0	0	0	93.4	2.000
	767.2	4.32	0	0	0	93.4	2.000
	876.7	3.90	0	0	0	93.4	2.000
	975.7	3.56	0	0	0	93.4	2.000
	1074.2	3.27	0	0	0	93.4	2.000
	373.2	6.72	0	0	0	93.4	2.000
	475.2	5.90	0	0	0	93.4	2.000
	675.2	4.61	0	0	0	93.4	2.000
	870.2	3.79	0	0	0	93.4	2.000
	870.2	3.83	0	0	0	93.4	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	970.7	3.49	0	0	0	93.4	2.000
	1071.7	3.18	0	0	0	93.4	2.000
	1165.2	2.99	0	0	0	93.4	2.000
	1173.2	2.97	0	0	0	93.4	2.000
	1279.2	2.77	0	0	0	93.4	2.000
	1282.2	2.76	0	0	0	93.4	2.000
	1372.2	2.63	0	0	0	93.4	2.000
	1465.2	2.51	0	0	0	93.4	2.000
	571.7	5.19	0	0	0	93.4	2.000
	870.2	3.74	0	0	0	93.4	2.000
	870.2	3.69	0	0	0	93.4	2.000
	871.7	3.68	0	0	0	93.4	2.000
	1171.2	2.89	0	0	0	93.4	2.000
	1175.2	2.87	0	0	0	93.4	2.000
	1377.2	2.59	0	0	0	93.4	2.000
	1474.7	2.43	0	0	0	93.4	2.000
	1475.2	2.38	0	0	0	93.4	2.000
	1571.2	2.36	0	0	0	93.4	2.000
	382.2	6.49	0	0	0	93.4	2.000
	383.2	6.50	0	0	0	93.4	2.000
	474.2	5.81	0	0	0	93.4	2.000
	473.2	5.76	0	0	0	93.4	2.000
	569.7	5.14	0	0	0	93.4	2.000
	571.7	5.11	0	0	0	93.4	2.000
	673.2	4.59	0	0	0	93.4	2.000
	673.2	4.56	0	0	0	93.4	2.000
	774.2	4.08	0	0	0	93.4	2.000
	774.2	4.10	0	0	0	93.4	2.000
	874.7	3.71	0	0	0	93.4	2.000
	874.7	3.73	0	0	0	93.4	2.000
	973.2	3.42	0	0	0	93.4	2.000
	973.2	3.42	0	0	0	93.4	2.000
	1071.2	3.17	0	0	0	93.4	2.000
	1071.2	3.16	0	0	0	93.4	2.000
	1173.2	2.95	0	0	0	93.4	2.000
	1271.2	2.75	0	0	0	93.4	2.000
	1323.2	2.68	0	0	0	93.4	2.000
	1372.2	2.59	0	0	0	93.4	2.000
	1372.2	2.59	0	0	0	93.4	2.000
	1422.2	2.52	0	0	0	93.4	2.000
	1423.2	2.50	0	0	0	93.4	2.000
	1468.2	2.45	0	0	0	93.4	2.000
	1521.2	2.39	0	0	0	93.4	2.000
	1523.2	2.41	0	0	0	93.4	2.000
	1569.2	2.31	0	0	0	93.4	2.000
	1569.2	2.31	0	0	0	93.4	2.000
	1569.2	2.29	0	0	0	93.4	2.000
	376.2	6.80	0	0	0	93.4	2.000
	376.2	6.74	0	0	0	93.4	2.000
	576.2	5.23	0	0	0	93.4	2.000
	576.2	5.23	0	0	0	93.4	2.000
	670.7	4.69	0	0	0	93.4	2.000
	670.7	4.69	0	0	0	93.4	2.000
	670.7	4.71	0	0	0	93.4	2.000
	874.2	3.82	0	0	0	93.4	2.000
	323.2	7.14	0	0	0	93.4	2.000
	324.2	7.05	0	0	0	93.4	2.000
	255.2	6.66	0	0	0	93.4	2.000
	216.2	6.35	0	0	0	93.4	2.000
	217.2	6.52	0	0	0	93.4	2.000
	234.2	6.63	0	0	0	93.4	2.000
	252.2	6.28	0	0	0	93.4	2.000
	325.2	7.11	0	0	0	93.4	2.000
	377.2	6.65	0	0	0	93.4	2.000
	377.2	6.65	0	0	0	93.4	2.000
	379.2	6.69	0	0	0	93.4	2.000
	378.2	6.53	0	0	0	93.4	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	378.2	6.52	0	0	0	93.4	2.000
	380.2	6.53	0	0	0	93.4	2.000
	382.2	6.68	0	0	0	93.4	2.000
Lyons et al. (1966)*							
	331.2	8.22	0	0	0	95	2.000
	376.2	8.03	0	0	0	95	2.000
	383.2	9.97	0	0	0	95	2.000
	383.2	7.33	0	0	0	95	2.000
	482.2	7.72	0	0	0	95	2.000
	485.2	5.99	0	0	0	95	2.000
	489.2	6.81	0	0	0	95	2.000
	581.2	5.09	0	0	0	95	2.000
	647.2	5.42	0	0	0	95	2.000
	647.2	4.66	0	0	0	95	2.000
	785.2	4.36	0	0	0	95	2.000
	815.2	3.87	0	0	0	95	2.000
	878.2	4.28	0	0	0	95	2.000
	900.2	3.90	0	0	0	95	2.000
	1052.2	3.66	0	0	0	95	2.000
	1148.2	2.84	0	0	0	95	2.000
	1283.2	3.11	0	0	0	95	2.000
	1314.2	2.87	0	0	0	95	2.000
	1387.2	2.69	0	0	0	95	2.000
	1486.2	2.59	0	0	0	95	2.000
	1597.2	2.56	0	0	0	95	2.000
	1685.2	1.91	0	0	0	95	2.000
	1751.2	2.27	0	0	0	95	2.000
	1822.2	1.86	0	0	0	95	2.000
	1930.2	1.82	0	0	0	95	2.000
	2390.2	1.79	0	0	0	95	2.000
	2154.2	2.21	0	0	0	95	2.000
	2263.2	1.05	0	0	0	95	2.000
	2338.2	2.22	0	0	0	95	2.000
	2413.2	1.29	0	0	0	95	2.000
	2494.2	2.19	0	0	0	95	2.000
	2623.2	2.12	0	0	0	95	2.000
	2659.2	1.51	0	0	0	95	2.000
	2713.2	2.19	0	0	0	95	2.000
Schmidt et al. (1966)*							
	473.2	6.00	0	0	0	95	2.000
	673.2	4.70	0	0	0	95	2.000
	873.2	3.80	0	0	0	95	2.000
	1073.2	3.10	0	0	0	95	2.000
Aring and Sievers (1967)							
	1.3	0.52	0	0	0	100	2.000
	1.5	0.67	0	0	0	100	2.000
	1.7	0.88	0	0	0	100	2.000
	1.8	1.12	0	0	0	100	2.000
	2.0	1.28	0	0	0	100	2.000
	2.3	1.95	0	0	0	100	2.000
	2.5	2.39	0	0	0	100	2.000
	2.9	3.23	0	0	0	100	2.000
	3.1	3.56	0	0	0	100	2.000
	3.1	4.01	0	0	0	100	2.000
	3.7	5.19	0	0	0	100	2.000
	3.5	5.36	0	0	0	100	2.000
	4.2	6.64	0	0	0	100	2.000
	4.8	7.17	0	0	0	100	2.000
	4.9	7.98	0	0	0	100	2.000
	5.8	8.79	0	0	0	100	2.000
	5.7	9.58	0	0	0	100	2.000
	6.9	10.01	0	0	0	100	2.000
	7.0	11.02	0	0	0	100	2.000
	8.0	10.68	0	0	0	100	2.000
	8.0	9.80	0	0	0	100	2.000
	9.3	9.30	0	0	0	100	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	9.0	9.81	0	0	0	100	2.000
	10.5	8.54	0	0	0	100	2.000
	10.5	7.67	0	0	0	100	2.000
	11.8	6.53	0	0	0	100	2.000
	11.9	5.81	0	0	0	100	2.000
	13.3	5.16	0	0	0	100	2.000
	13.2	4.79	0	0	0	100	2.000
	15.0	3.87	0	0	0	100	2.000
	15.0	3.47	0	0	0	100	2.000
	15.2	3.22	0	0	0	100	2.000
	16.1	2.93	0	0	0	100	2.000
	16.6	2.55	0	0	0	100	2.000
	17.3	2.47	0	0	0	100	2.000
	19.5	1.91	0	0	0	100	2.000
	21.1	1.49	0	0	0	100	2.000
	23.2	1.31	0	0	0	100	2.000
	23.7	1.18	0	0	0	100	2.000
	25.6	1.09	0	0	0	100	2.000
	27.3	0.95	0	0	0	100	2.000
	27.9	0.92	0	0	0	100	2.000
	32.4	0.97	0	0	0	100	2.000
	33.7	1.11	0	0	0	100	2.000
	36.3	1.21	0	0	0	100	2.000
	37.9	1.08	0	0	0	100	2.000
	41.2	1.45	0	0	0	100	2.000
	41.7	1.56	0	0	0	100	2.000
	45.8	1.88	0	0	0	100	2.000
	49.3	2.07	0	0	0	100	2.000
	49.3	2.35	0	0	0	100	2.000
	58.4	2.65	0	0	0	100	2.000
	54.1	2.79	0	0	0	100	2.000
	58.3	3.11	0	0	0	100	2.000
	66.1	4.07	0	0	0	100	2.000
	77.5	4.88	0	0	0	100	2.000
	96.7	6.89	0	0	0	100	2.000
	110.9	7.84	0	0	0	100	2.000
	116.9	8.73	0	0	0	100	2.000
	150.8	10.60	0	0	0	100	2.000
	165.8	11.55	0	0	0	100	2.000
	200.8	12.60	0	0	0	100	2.000
Hetzler et al. (1967)$^{\diamond}$							
	2156.7	2.27	0	0	20	100	2.000
	2093.6	2.29	0	0	20	100	2.000
	2101.7	2.50	0	0	20	100	2.000
	2078.1	2.57	0	0	20	100	2.000
	2014.7	2.36	0	0	20	100	2.000
	1998.9	2.38	0	0	20	100	2.000
	1991.2	2.53	0	0	20	100	2.000
	1785.8	2.42	0	0	20	100	2.000
	1762.3	2.57	0	0	20	100	2.000
	1738.7	2.66	0	0	20	100	2.000
	1604.6	2.70	0	0	20	100	2.000
	1501.7	2.49	0	0	20	100	2.000
	1430.9	2.72	0	0	20	100	2.000
	1446.8	2.87	0	0	20	100	2.000
	1320.3	2.64	0	0	20	100	2.000
	1289.0	2.94	0	0	20	100	2.000
	1352.2	2.92	0	0	20	100	2.000
	1289.2	3.09	0	0	20	100	2.000
	1265.5	3.07	0	0	20	100	2.000
	1249.8	3.17	0	0	20	100	2.000
	1194.6	3.20	0	0	20	100	2.000
	1162.8	3.03	0	0	20	100	2.000
	1068.6	3.45	0	0	20	100	2.000
	1155.4	3.45	0	0	20	100	2.000
	1084.6	3.71	0	0	20	100	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	2096.5	2.12	0	0	20	100	1.980
	2064.8	2.19	0	0	20	100	1.980
	1977.6	2.27	0	0	20	100	1.980
	1993.6	2.38	0	0	20	100	1.980
	2017.7	2.60	0	0	20	100	1.980
	1986.0	2.64	0	0	20	100	1.980
	1851.1	2.71	0	0	20	100	1.980
	1843.0	2.51	0	0	20	100	1.980
	1660.0	2.12	0	0	20	100	1.980
	1668.1	2.30	0	0	20	100	1.980
	1676.3	2.47	0	0	20	100	1.980
	1469.7	2.30	0	0	20	100	1.980
	1406.2	2.30	0	0	20	100	1.980
	1374.6	2.38	0	0	20	100	1.980
	1422.3	2.45	0	0	20	100	1.980
	1430.4	2.62	0	0	20	100	1.980
	1390.7	2.62	0	0	20	100	1.980
	1303.3	2.53	0	0	20	100	1.980
	1319.4	2.71	0	0	20	100	1.980
	1279.9	2.88	0	0	20	100	1.980
	1224.4	2.88	0	0	20	100	1.980
	1184.8	2.97	0	0	20	100	1.980
	1216.3	2.81	0	0	20	100	1.980
	1192.4	2.71	0	0	20	100	1.980
Lagedrost et al. (1968)							
	573.2	5.4	0	0	100	96.5	2.000
	673.2	4.8	0	0	100	96.5	2.000
	773.2	4.0	0	0	100	96.5	2.000
	873.2	3.4	0	0	100	96.5	2.000
	973.2	2.9	0	0	100	96.5	2.000
	1073.2	2.6	0	0	100	96.5	2.000
	1173.2	2.4	0	0	100	96.5	2.000
	1273.2	2.3	0	0	100	96.5	2.000
	1373.2	2.3	0	0	100	96.5	2.000
	573.2	5.8	0	0	100	96.5	2.000
	673.2	5.2	0	0	100	96.5	2.000
	773.2	4.3	0	0	100	96.5	2.000
	873.2	3.7	0	0	100	96.5	2.000
	973.2	3.1	0	0	100	96.5	2.000
	1073.2	2.7	0	0	100	96.5	2.000
	1173.2	2.5	0	0	100	96.5	2.000
	1273.2	2.4	0	0	100	96.5	2.000
	1373.2	2.4	0	0	100	96.5	2.000
	1473.2	2.3	0	0	100	96.5	2.000
	473.2	5.5	0	0	100	81.9	2.000
	573.2	4.5	0	0	100	81.9	2.000
	673.2	3.8	0	0	100	81.9	2.000
	773.2	3.3	0	0	100	81.9	2.000
	873.2	2.9	0	0	100	81.9	2.000
	973.2	2.6	0	0	100	81.9	2.000
	1073.2	2.3	0	0	100	81.9	2.000
	1173.2	2.2	0	0	100	81.9	2.000
	1273.2	3.0	0	0	100	81.9	2.000
	1373.2	2.0	0	0	100	81.9	2.000
	1473.2	1.8	0	0	100	81.9	2.000
	1573.2	1.8	0	0	100	81.9	2.000
	1633.2	1.6	0	0	100	81.9	2.000
	573.2	4.6	0	0	100	81.9	2.000
	673.2	3.8	0	0	100	81.9	2.000
	773.2	3.4	0	0	100	81.9	2.000
	873.2	3.0	0	0	100	81.9	2.000
	973.2	2.6	0	0	100	81.9	2.000
	1073.2	2.4	0	0	100	81.9	2.000
	1173.2	2.2	0	0	100	81.9	2.000
	1273.2	2.1	0	0	100	81.9	2.000
	1373.2	2.1	0	0	100	81.9	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1473.2	2.0	0	0	100	81.9	2.000
	1573.2	1.8	0	0	100	81.9	2.000
	1633.2	1.5	0	0	100	81.9	2.000
VanCraeynest and Weilbacher (1968)							
	355.2	5.47	0	0	20	95	2.000
	365.2	6.22	0	0	20	95	2.000
	479.2	5.52	0	0	20	95	2.000
	555.2	5.01	0	0	20	95	2.000
	690.2	3.82	0	0	20	95	2.000
	817.2	3.75	0	0	20	95	2.000
	983.2	3.02	0	0	20	95	2.000
	1137.2	2.80	0	0	20	95	2.000
	337.2	6.18	0	0	20	95	2.000
	413.2	5.78	0	0	20	95	2.000
	573.2	4.71	0	0	20	95	2.000
	688.2	4.06	0	0	20	95	2.000
	813.2	3.58	0	0	20	95	2.000
	923.2	3.19	0	0	20	95	2.000
	1005.2	3.02	0	0	20	95	2.000
	1101.2	2.92	0	0	20	95	2.000
	341.2	4.26	0	0	20	95	2.000
	517.2	3.74	0	0	20	95	2.000
	681.2	3.09	0	0	20	95	2.000
	813.2	2.78	0	0	20	95	2.000
	357.2	4.28	0	0	20	95	2.000
	393.2	4.08	0	0	20	95	2.000
	493.2	3.76	0	0	20	95	2.000
	573.2	3.37	0	0	20	95	2.000
	677.2	3.21	0	0	20	95	2.000
	749.2	3.00	0	0	20	95	2.000
	899.2	2.84	0	0	20	95	2.000
	971.2	2.70	0	0	20	95	2.000
	386.2	4.46	0	0	20	95	1.999
	569.2	3.77	0	0	20	95	1.999
	645.2	3.40	0	0	20	95	1.999
	741.2	3.09	0	0	20	95	1.999
	883.2	2.79	0	0	20	95	1.999
	377.2	5.64	0	0	20	95	1.997
	480.2	5.04	0	0	20	95	1.997
	695.2	3.88	0	0	20	95	1.997
	787.2	3.66	0	0	20	95	1.997
	878.2	3.33	0	0	20	95	1.997
	977.2	3.20	0	0	20	95	1.997
	358.2	5.41	0	0	20	95	1.995
	366.2	5.63	0	0	20	95	1.995
	525.2	4.73	0	0	20	95	1.995
	691.2	3.86	0	0	20	95	1.995
	966.2	3.34	0	0	20	95	1.995
	361.2	4.48	0	0	20	95	1.995
	506.2	4.04	0	0	20	95	1.995
	698.2	3.40	0	0	20	95	1.995
	869.2	2.86	0	0	20	95	1.995
	1014.2	2.62	0	0	20	95	1.995
	368.2	3.70	0	0	20	95	1.960
	460.2	3.28	0	0	20	95	1.960
	605.2	2.95	0	0	20	95	1.960
	788.2	2.62	0	0	20	95	1.960
	874.2	2.62	0	0	20	95	1.960
	1065.2	2.19	0	0	20	95	1.960
	358.2	2.36	0	0	20	95	1.952
	523.2	2.16	0	0	20	95	1.952
	604.2	2.01	0	0	20	95	1.952
	708.2	1.87	0	0	20	95	1.952
	801.2	1.71	0	0	20	95	1.952
	947.2	1.58	0	0	20	95	1.952
	333.2	2.35	0	0	20	95	1.948

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	648.2	1.70	0	0	20	95	1.948
	971.2	1.58	0	0	20	95	1.948
	330.2	2.14	0	0	20	95	1.924
	335.2	1.85	0	0	20	95	1.924
	402.2	2.13	0	0	20	95	1.924
	529.2	1.99	0	0	20	95	1.924
	670.2	1.80	0	0	20	95	1.924
	730.2	1.88	0	0	20	95	1.924
	822.2	1.81	0	0	20	95	1.924
	998.2	1.74	0	0	20	95	1.924
	330.2	2.41	0	0	20	95	1.920
	522.2	2.36	0	0	20	95	1.920
	609.2	2.36	0	0	20	95	1.920
	698.2	2.11	0	0	20	95	1.920
	782.2	2.07	0	0	20	95	1.920
	903.2	1.95	0	0	20	95	1.920
	331.2	3.65	0	0	20	95	1.915
	333.2	4.01	0	0	20	95	1.915
	427.2	2.86	0	0	20	95	1.915
	505.2	2.46	0	0	20	95	1.915
	613.2	2.31	0	0	20	95	1.915
	719.2	2.11	0	0	20	95	1.915
	823.2	2.02	0	0	20	95	1.915
	913.2	1.82	0	0	20	95	1.915
	323.2	3.31	0	0	20	95	1.903
	323.2	2.64	0	0	20	95	1.903
	327.2	2.58	0	0	20	95	1.903
	463.2	2.50	0	0	20	95	1.903
	563.2	2.39	0	0	20	95	1.903
	669.2	2.24	0	0	20	95	1.903
	793.2	2.14	0	0	20	95	1.903
	929.2	1.89	0	0	20	95	1.903
	983.2	1.90	0	0	20	95	1.903
	1049.2	1.88	0	0	20	95	1.903
	323.2	2.12	0	0	20	95	1.902
	327.2	2.23	0	0	20	95	1.902
	468.2	2.03	0	0	20	95	1.902
	503.2	2.00	0	0	20	95	1.902
	547.2	1.97	0	0	20	95	1.902
	673.2	1.89	0	0	20	95	1.902
	793.2	1.83	0	0	20	95	1.902
	898.2	1.98	0	0	20	95	1.902
	988.2	1.62	0	0	20	95	1.902
	336.2	3.47	0	0	20	95	2.050
	343.2	3.55	0	0	20	95	2.050
	345.2	3.43	0	0	20	95	2.050
	437.2	3.60	0	0	20	95	2.050
	469.2	2.96	0	0	20	95	2.050
	528.2	2.51	0	0	20	95	2.050
	697.2	2.41	0	0	20	95	2.050
	802.2	2.29	0	0	20	95	2.050
	957.2	2.11	0	0	20	95	2.050
	1089.2	2.01	0	0	20	95	2.050
	343.2	1.15	0	0	20	95	2.200
	703.2	1.33	0	0	20	95	2.200
	1033.2	1.37	0	0	20	95	2.200
	1273.2	2.06	0	0	20	95	1.996
	1273.2	2.19	0	0	20	95	1.996
	1373.2	2.39	0	0	20	95	1.996
	1373.2	2.17	0	0	20	95	1.996
	1473.2	2.34	0	0	20	95	1.996
	1473.2	2.18	0	0	20	95	1.996
	1573.2	2.07	0	0	20	95	1.996
	1573.2	2.20	0	0	20	95	1.996
	1673.2	1.91	0	0	20	95	1.996
	1673.2	2.22	0	0	20	95	1.996
	1773.2	1.99	0	0	20	95	1.996

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1773.2	2.32	0	0	20	95	1.996
	1873.2	2.03	0	0	20	95	1.996
	1973.2	1.93	0	0	20	95	1.996
	2073.2	1.85	0	0	20	95	1.996
	2173.2	2.35	0	0	20	95	1.996
	1373.2	2.30	0	0	20	95	1.994
	1473.2	2.21	0	0	20	95	1.994
	1573.2	2.14	0	0	20	95	1.994
	1673.2	1.86	0	0	20	95	1.994
	1773.2	1.86	0	0	20	95	1.994
	1873.2	1.89	0	0	20	95	1.994
	1973.2	1.90	0	0	20	95	1.994
	2073.2	1.99	0	0	20	95	1.994
	2173.2	2.06	0	0	20	95	1.994
	1273.2	2.09	0	0	20	95	1.970
	1373.2	1.94	0	0	20	95	1.970
	1423.2	1.98	0	0	20	95	1.970
	1473.2	1.89	0	0	20	95	1.970
	1573.2	1.75	0	0	20	95	1.970
	1673.2	2.22	0	0	20	95	1.970
	1773.2	1.89	0	0	20	95	1.970
	1873.2	2.02	0	0	20	95	1.970
	1973.2	2.10	0	0	20	95	1.970
	1273.2	1.65	0	0	20	95	1.958
	1373.2	1.53	0	0	20	95	1.958
	1473.2	1.67	0	0	20	95	1.958
	1573.2	1.68	0	0	20	95	1.958
	1673.2	1.73	0	0	20	95	1.958
	1773.2	1.72	0	0	20	95	1.958
	1873.2	1.79	0	0	20	95	1.958
	1373.2	1.50	0	0	20	95	1.945
	1473.2	1.51	0	0	20	95	1.945
	1573.2	1.52	0	0	20	95	1.945
	1673.2	1.50	0	0	20	95	1.945
	1773.2	1.52	0	0	20	95	1.945
	1873.2	1.58	0	0	20	95	1.945
Giby (1968)							
	378.2	6.76	0	0	20	96	2.000
	427.2	6.77	0	0	20	96	2.000
	445.2	7.00	0	0	20	96	2.000
	462.2	7.00	0	0	20	96	2.000
	489.2	6.64	0	0	20	96	2.000
	516.2	6.35	0	0	20	96	2.000
	579.2	5.77	0	0	20	96	2.000
	642.2	5.34	0	0	20	96	2.000
	673.2	5.04	0	0	20	96	2.000
	751.2	4.49	0	0	20	96	2.000
	793.2	4.33	0	0	20	96	2.000
	839.2	4.10	0	0	20	96	2.000
	881.2	3.86	0	0	20	96	2.000
	946.2	3.51	0	0	20	96	2.000
	981.2	3.42	0	0	20	96	2.000
	1024.2	3.37	0	0	20	96	2.000
	1074.2	3.04	0	0	20	96	2.000
	1122.2	2.94	0	0	20	96	2.000
	1201.2	2.74	0	0	20	96	2.000
	1229.2	2.61	0	0	20	96	2.000
	1293.2	2.52	0	0	20	96	2.000
	1353.2	2.40	0	0	20	96	2.000
	1392.2	2.28	0	0	20	96	2.000
	1424.2	2.24	0	0	20	96	2.000
	1473.2	2.20	0	0	20	96	2.000
	1525.2	2.11	0	0	20	96	2.000
	1572.2	2.08	0	0	20	96	2.000
	1625.2	2.06	0	0	20	96	2.000
	1688.2	2.05	0	0	20	96	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1722.2	2.08	0	0	20	96	2.000
	1771.2	1.98	0	0	20	96	2.000
	1817.2	1.92	0	0	20	96	2.000
	1870.2	2.05	0	0	20	96	2.000
	1823.2	2.10	0	0	20	96	2.000
	1767.2	2.03	0	0	20	96	2.000
	1725.2	1.85	0	0	20	96	2.000
	1675.2	2.06	0	0	20	96	2.000
	1624.2	2.05	0	0	20	96	2.000
	1579.2	2.13	0	0	20	96	2.000
	1493.2	2.18	0	0	20	96	2.000
	1448.2	2.24	0	0	20	96	2.000
	1415.2	2.26	0	0	20	96	2.000
	1373.2	2.27	0	0	20	96	2.000
	1323.2	2.30	0	0	20	96	2.000
	1287.2	2.38	0	0	20	96	2.000
	1216.2	2.58	0	0	20	96	2.000
	1153.2	2.67	0	0	20	96	2.000
	1120.2	2.86	0	0	20	96	2.000
	1068.2	3.00	0	0	20	96	2.000
	1027.2	3.18	0	0	20	96	2.000
	974.2	3.33	0	0	20	96	2.000
	910.2	3.65	0	0	20	96	2.000
	866.2	3.83	0	0	20	96	2.000
	819.2	4.20	0	0	20	96	2.000
	513.2	6.45	0	0	20	96	2.000
	504.2	6.50	0	0	20	96	2.000
	445.2	6.85	0	0	20	96	2.000
	417.2	7.34	0	0	20	96	2.000
	381.2	7.60	0	0	20	96	2.000
	363.2	7.55	0	0	20	96	2.000
	360.2	7.79	0	0	20	96	2.000
	389.2	6.90	0	0	20	96	2.000
	401.2	7.05	0	0	20	96	2.000
	431.2	7.60	0	0	20	96	2.000
	459.2	6.98	0	0	20	96	2.000
	501.2	6.69	0	0	20	96	2.000
	515.2	6.53	0	0	20	96	2.000
	527.2	6.22	0	0	20	96	2.000
	561.2	5.86	0	0	20	96	2.000
	595.2	5.77	0	0	20	96	2.000
	633.2	5.34	0	0	20	96	2.000
	695.2	4.95	0	0	20	96	2.000
	704.2	4.65	0	0	20	96	2.000
	732.2	4.71	0	0	20	96	2.000
	764.2	4.44	0	0	20	96	2.000
	808.2	4.26	0	0	20	96	2.000
	834.2	4.20	0	0	20	96	2.000
	925.2	3.69	0	0	20	96	2.000
	969.2	3.52	0	0	20	96	2.000
	997.2	3.47	0	0	20	96	2.000
	1037.2	3.28	0	0	20	96	2.000
	1108.2	3.04	0	0	20	96	2.000
	1143.2	2.91	0	0	20	96	2.000
	1202.2	2.91	0	0	20	96	2.000
	1278.2	2.59	0	0	20	96	2.000
	1342.2	2.57	0	0	20	96	2.000
	1369.2	2.45	0	0	20	96	2.000
	1436.2	2.39	0	0	20	96	2.000
	1512.2	2.30	0	0	20	96	2.000
	1279.2	2.47	0	0	20	96	2.000
	1189.2	2.78	0	0	20	96	2.000
	1104.2	3.04	0	0	20	96	2.000
	989.2	3.41	0	0	20	96	2.000
	873.2	4.11	0	0	20	96	2.000
	741.2	4.51	0	0	20	96	2.000
	715.2	4.75	0	0	20	96	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	611.2	5.81	0	0	20	96	2.000
	577.2	6.08	0	0	20	96	2.000
	541.2	6.06	0	0	20	96	2.000
	468.2	6.95	0	0	20	96	2.000
Kruger (1968)*							
	673.2	3.85	0	0	0	93.7	2.000
	873.2	3.30	0	0	0	93.7	2.000
	1073.2	2.92	0	0	0	93.7	2.000
	1273.2	2.54	0	0	0	93.7	2.000
	1473.2	2.20	0	0	0	93.7	2.000
	1673.2	2.04	0	0	0	93.7	2.000
	1873.2	1.94	0	0	0	93.7	2.000
	2073.2	1.90	0	0	0	93.7	2.000
	2273.2	1.90	0	0	0	93.7	2.000
Asamoto et al. (1969)							
	1157.9	2.70	0	0	0	86	2.016
	1147.8	2.52	0	0	0	86	2.016
	1153.4	2.34	0	0	0	86	2.016
	1172.0	2.39	0	0	0	86	2.016
	1190.5	2.46	0	0	0	86	2.016
	1207.7	2.61	0	0	0	86	2.016
	1254.7	2.63	0	0	0	86	2.016
	1238.9	2.38	0	0	0	86	2.016
	1238.8	2.17	0	0	0	86	2.016
	1268.6	2.06	0	0	0	86	2.016
	1322.7	1.98	0	0	0	86	2.016
	1325.7	2.13	0	0	0	86	2.016
	1308.6	2.22	0	0	0	86	2.016
	1305.9	2.46	0	0	0	86	2.016
	1344.1	1.97	0	0	0	86	2.016
	1385.5	2.24	0	0	0	86	2.016
	1404.1	2.23	0	0	0	86	2.016
	1446.7	2.14	0	0	0	86	2.016
	1431.0	2.09	0	0	0	86	2.016
	1425.3	1.99	0	0	0	86	2.016
	1473.7	1.93	0	0	0	86	2.016
	1468.0	2.04	0	0	0	86	2.016
	1502.3	2.07	0	0	0	86	2.016
	1510.9	2.16	0	0	0	86	2.016
	1516.6	2.25	0	0	0	86	2.016
	1550.7	2.18	0	0	0	86	2.016
	1547.9	2.10	0	0	0	86	2.016
	1574.9	2.13	0	0	0	86	2.016
	1602.0	2.09	0	0	0	86	2.016
	1609.1	2.14	0	0	0	86	2.016
	1592.1	2.33	0	0	0	86	2.016
	1610.6	2.30	0	0	0	86	2.016
	1627.7	2.25	0	0	0	86	2.016
	1644.8	2.16	0	0	0	86	2.016
	1640.4	2.06	0	0	0	86	2.016
	1670.4	2.14	0	0	0	86	2.016
	1681.7	1.99	0	0	0	86	2.016
	1697.4	2.05	0	0	0	86	2.016
	1711.7	2.08	0	0	0	86	2.016
	1727.3	2.03	0	0	0	86	2.016
	1723.2	2.26	0	0	0	86	2.016
	1332.5	1.69	0	0	0	86	2.016
	1362.5	1.75	0	0	0	86	2.016
	1365.4	1.84	0	0	0	86	2.016
	1395.3	1.85	0	0	0	86	2.016
	1425.2	1.79	0	0	0	86	2.016
	1442.2	1.76	0	0	0	86	2.016
	1457.9	1.79	0	0	0	86	2.016
	1475.0	1.78	0	0	0	86	2.016
	1456.4	1.59	0	0	0	86	2.016
	1512.1	1.81	0	0	0	86	2.016

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1543.4	1.83	0	0	0	86	2.016
	1577.6	1.76	0	0	0	86	2.016
	1589.0	1.81	0	0	0	86	2.016
	1648.8	1.76	0	0	0	86	2.016
	1769.9	1.81	0	0	0	86	2.016
	1765.7	1.91	0	0	0	86	2.016
	1772.8	1.96	0	0	0	86	2.016
	1804.1	1.83	0	0	0	86	2.016
	1814.1	1.90	0	0	0	86	2.016
	1825.5	1.80	0	0	0	86	2.016
	1866.8	1.80	0	0	0	86	2.016
	1864.0	1.91	0	0	0	86	2.016
	1882.5	1.89	0	0	0	86	2.016
	1909.5	1.87	0	0	0	86	2.016
	1939.5	1.91	0	0	0	86	2.016
	1939.3	1.50	0	0	0	86	2.016
	2103.1	1.50	0	0	0	86	2.016
	1907.0	2.33	0	0	0	86	2.016
	2003.7	2.07	0	0	0	86	2.016
	2017.9	2.10	0	0	0	86	2.016
	2045.1	2.18	0	0	0	86	2.016
	2063.5	2.06	0	0	0	86	2.016
	2072.2	2.30	0	0	0	86	2.016
	2119.0	1.98	0	0	0	86	2.016
	2168.8	1.78	0	0	0	86	2.016
	2153.3	2.07	0	0	0	86	2.016
	2206.0	2.20	0	0	0	86	2.016
	2312.7	1.99	0	0	0	86	2.016
	2368.2	1.80	0	0	0	86	2.016
	2405.5	2.25	0	0	0	86	2.016
	1145.5	2.48	0	0	0	82	2.012
	1158.6	2.52	0	0	0	82	2.012
	1157.4	2.25	0	0	0	82	2.012
	1160.0	2.19	0	0	0	82	2.012
	1179.7	2.18	0	0	0	82	2.012
	1181.0	2.07	0	0	0	82	2.012
	1216.3	2.23	0	0	0	82	2.012
	1230.7	2.25	0	0	0	82	2.012
	1242.5	2.18	0	0	0	82	2.012
	1255.5	2.28	0	0	0	82	2.012
	1242.4	2.34	0	0	0	82	2.012
	1222.8	2.37	0	0	0	82	2.012
	1212.3	2.32	0	0	0	82	2.012
	1216.2	2.44	0	0	0	82	2.012
	1251.7	2.03	0	0	0	82	2.012
	1273.9	2.03	0	0	0	82	2.012
	1280.5	1.94	0	0	0	82	2.012
	1305.4	1.69	0	0	0	82	2.012
	1323.7	1.86	0	0	0	82	2.012
	1330.2	1.94	0	0	0	82	2.012
	1321.1	2.02	0	0	0	82	2.012
	1310.6	2.10	0	0	0	82	2.012
	1343.3	2.04	0	0	0	82	2.012
	1380.0	1.86	0	0	0	82	2.012
	1373.5	1.71	0	0	0	82	2.012
	1304.0	2.31	0	0	0	82	2.012
	1317.0	2.32	0	0	0	82	2.012
	1412.7	2.11	0	0	0	82	2.012
	1417.9	1.89	0	0	0	82	2.012
	1437.6	1.91	0	0	0	82	2.012
	1433.6	1.96	0	0	0	82	2.012
	1459.8	1.92	0	0	0	82	2.012
	1471.6	2.00	0	0	0	82	2.012
	1470.2	2.17	0	0	0	82	2.012
	1411.4	1.72	0	0	0	82	2.012
	1455.9	1.73	0	0	0	82	2.012
	1509.6	1.82	0	0	0	82	2.012

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1500.4	2.01	0	0	0	82	2.012
	1499.0	2.08	0	0	0	82	2.012
	1512.1	2.13	0	0	0	82	2.012
	1546.2	1.85	0	0	0	82	2.012
	1558.0	1.84	0	0	0	82	2.012
	1584.2	1.89	0	0	0	82	2.012
	1568.4	2.10	0	0	0	82	2.012
	1546.1	2.24	0	0	0	82	2.012
	1598.5	2.10	0	0	0	82	2.012
	1615.5	2.22	0	0	0	82	2.012
	1628.6	2.17	0	0	0	82	2.012
	1633.9	2.08	0	0	0	82	2.012
	1624.7	1.94	0	0	0	82	2.012
	1654.8	1.92	0	0	0	82	2.012
	1666.6	1.97	0	0	0	82	2.012
	1682.3	1.99	0	0	0	82	2.012
	1661.4	1.76	0	0	0	82	2.012
	1700.7	1.69	0	0	0	82	2.012
	1725.5	1.88	0	0	0	82	2.012
	1736.0	1.80	0	0	0	82	2.012
	1737.3	1.89	0	0	0	82	2.012
	1728.1	2.03	0	0	0	82	2.012
	1713.7	2.15	0	0	0	82	2.012
	1698.0	2.17	0	0	0	82	2.012
	1762.1	2.13	0	0	0	82	2.012
	1788.4	1.89	0	0	0	82	2.012
	1787.1	1.78	0	0	0	82	2.012
	1831.6	1.80	0	0	0	82	2.012
	1821.2	1.64	0	0	0	82	2.012
	1848.5	1.99	0	0	0	82	2.012
	1853.8	2.04	0	0	0	82	2.012
	1890.5	1.88	0	0	0	82	2.012
	1876.1	1.79	0	0	0	82	2.012
	1914.1	1.67	0	0	0	82	2.012
	1933.7	1.64	0	0	0	82	2.012
	1941.6	1.71	0	0	0	82	2.012
	1990.0	1.74	0	0	0	82	2.012
	1988.6	1.85	0	0	0	82	2.012
	1982.1	1.99	0	0	0	82	2.012
	2042.3	1.68	0	0	0	82	2.012
	2096.0	1.82	0	0	0	82	2.012
	2157.5	1.69	0	0	0	82	2.012
	2187.6	1.87	0	0	0	82	2.012
	2229.5	1.83	0	0	0	82	2.012
	2374.8	1.72	0	0	0	82	2.012
	1113.3	3.20	0	0	0	91	2.010
	1148.9	2.73	0	0	0	91	2.010
	1189.9	2.71	0	0	0	91	2.010
	1204.0	2.68	0	0	0	91	2.010
	1174.5	2.56	0	0	0	91	2.010
	1224.4	2.44	0	0	0	91	2.010
	1239.8	2.51	0	0	0	91	2.010
	1245.0	2.59	0	0	0	91	2.010
	1230.9	2.63	0	0	0	91	2.010
	1270.7	2.81	0	0	0	91	2.010
	1311.8	2.96	0	0	0	91	2.010
	1332.3	2.77	0	0	0	91	2.010
	1341.2	2.73	0	0	0	91	2.010
	1337.3	2.65	0	0	0	91	2.010
	1302.7	2.63	0	0	0	91	2.010
	1264.2	2.49	0	0	0	91	2.010
	1264.1	2.42	0	0	0	91	2.010
	1275.7	2.53	0	0	0	91	2.010
	1294.9	2.40	0	0	0	91	2.010
	1338.5	2.42	0	0	0	91	2.010
	1347.4	2.33	0	0	0	91	2.010

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1356.4	2.26	0	0	0	91	2.010
	1367.9	2.20	0	0	0	91	2.010
	1374.2	2.13	0	0	0	91	2.010
	1342.2	2.14	0	0	0	91	2.010
	1342.2	2.05	0	0	0	91	2.010
	1285.8	2.13	0	0	0	91	2.010
	1389.5	1.90	0	0	0	91	2.010
	1401.1	2.08	0	0	0	91	2.010
	1416.5	2.09	0	0	0	91	2.010
	1407.6	2.13	0	0	0	91	2.010
	1396.1	2.26	0	0	0	91	2.010
	1384.6	2.33	0	0	0	91	2.010
	1371.8	2.40	0	0	0	91	2.010
	1356.5	2.43	0	0	0	91	2.010
	1406.5	2.49	0	0	0	91	2.010
	1443.7	2.57	0	0	0	91	2.010
	1474.5	2.65	0	0	0	91	2.010
	1478.3	2.48	0	0	0	91	2.010
	1485.9	2.37	0	0	0	91	2.010
	1491.0	2.28	0	0	0	91	2.010
	1480.7	2.25	0	0	0	91	2.010
	1464.0	2.21	0	0	0	91	2.010
	1503.8	2.22	0	0	0	91	2.010
	1501.3	2.36	0	0	0	91	2.010
	1510.3	2.45	0	0	0	91	2.010
	1524.4	2.35	0	0	0	91	2.010
	1503.7	1.99	0	0	0	91	2.010
	1534.4	2.01	0	0	0	91	2.010
	1534.5	2.10	0	0	0	91	2.010
	1539.7	2.19	0	0	0	91	2.010
	1544.8	2.27	0	0	0	91	2.010
	1552.6	2.33	0	0	0	91	2.010
	1583.3	2.31	0	0	0	91	2.010
	1538.7	2.74	0	0	0	91	2.010
	1566.8	2.69	0	0	0	91	2.010
	1608.9	2.13	0	0	0	91	2.010
	1625.6	2.26	0	0	0	91	2.010
	1608.8	1.93	0	0	0	91	2.010
	1672.8	1.83	0	0	0	91	2.010
	1674.2	1.99	0	0	0	91	2.010
	1724.2	2.09	0	0	0	91	2.010
	1729.4	2.27	0	0	0	91	2.010
	1715.4	2.43	0	0	0	91	2.010
	1738.6	2.58	0	0	0	91	2.010
	1677.0	2.46	0	0	0	91	2.010
	1662.9	2.54	0	0	0	91	2.010
	1645.0	2.60	0	0	0	91	2.010
	1678.4	2.64	0	0	0	91	2.010
	1677.1	2.73	0	0	0	91	2.010
	1748.6	2.11	0	0	0	91	2.010
	1775.5	2.10	0	0	0	91	2.010
	1770.5	2.24	0	0	0	91	2.010
	1801.2	2.19	0	0	0	91	2.010
	1798.6	2.09	0	0	0	91	2.010
	1787.0	2.02	0	0	0	91	2.010
	1844.8	2.16	0	0	0	91	2.010
	1835.8	2.24	0	0	0	91	2.010
	1848.8	2.42	0	0	0	91	2.010
	1900.9	1.64	0	0	0	91	2.010
	1906.1	1.82	0	0	0	91	2.010
	1889.5	1.91	0	0	0	91	2.010
	1913.9	1.91	0	0	0	91	2.010
	1929.3	1.89	0	0	0	91	2.010
	1948.6	2.13	0	0	0	91	2.010
	1983.3	2.19	0	0	0	91	2.010
	2031.9	1.98	0	0	0	91	2.010
	2043.4	2.03	0	0	0	91	2.010

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	2070.3	2.00	0	0	0	91	2.010
	2058.7	1.86	0	0	0	91	2.010
	2090.8	1.98	0	0	0	91	2.010
	2119.1	2.10	0	0	0	91	2.010
	2148.5	1.98	0	0	0	91	2.010
	2169.0	1.90	0	0	0	91	2.010
	2190.8	1.89	0	0	0	91	2.010
	2198.6	2.04	0	0	0	91	2.010
	2245.9	1.94	0	0	0	91	2.010
	2342.0	1.79	0	0	0	91	2.010
	2375.5	2.11	0	0	0	91	2.010
	1054.1	3.87	0	0	0	95	2.009
	1079.2	4.01	0	0	0	95	2.009
	1105.5	3.70	0	0	0	95	2.009
	1117.2	3.72	0	0	0	95	2.009
	1152.8	3.89	0	0	0	95	2.009
	1165.8	3.91	0	0	0	95	2.009
	1130.9	3.51	0	0	0	95	2.009
	1143.9	3.51	0	0	0	95	2.009
	1163.2	3.46	0	0	0	95	2.009
	1181.5	3.50	0	0	0	95	2.009
	1159.1	3.37	0	0	0	95	2.009
	1145.5	3.18	0	0	0	95	2.009
	1161.0	3.13	0	0	0	95	2.009
	1155.5	3.02	0	0	0	95	2.009
	1211.1	2.94	0	0	0	95	2.009
	1208.7	3.03	0	0	0	95	2.009
	1206.6	3.21	0	0	0	95	2.009
	1207.0	3.33	0	0	0	95	2.009
	1222.4	3.28	0	0	0	95	2.009
	1236.6	3.26	0	0	0	95	2.009
	1259.0	3.36	0	0	0	95	2.009
	1263.3	3.50	0	0	0	95	2.009
	1250.3	3.52	0	0	0	95	2.009
	1288.8	3.36	0	0	0	95	2.009
	1286.0	3.29	0	0	0	95	2.009
	1289.4	3.13	0	0	0	95	2.009
	1322.1	3.20	0	0	0	95	2.009
	1349.2	3.16	0	0	0	95	2.009
	1327.9	2.98	0	0	0	95	2.009
	1282.5	2.97	0	0	0	95	2.009
	1274.4	2.86	0	0	0	95	2.009
	1247.3	2.92	0	0	0	95	2.009
	1250.4	3.08	0	0	0	95	2.009
	1142.6	2.59	0	0	0	95	2.009
	1232.3	2.67	0	0	0	95	2.009
	1248.9	2.57	0	0	0	95	2.009
	1306.7	2.36	0	0	0	95	2.009
	1308.7	2.59	0	0	0	95	2.009
	1351.6	2.64	0	0	0	95	2.009
	1350.8	2.82	0	0	0	95	2.009
	1377.3	2.55	0	0	0	95	2.009
	1365.4	2.47	0	0	0	95	2.009
	1393.3	2.24	0	0	0	95	2.009
	1410.3	2.30	0	0	0	95	2.009
	1454.9	2.47	0	0	0	95	2.009
	1469.4	2.52	0	0	0	95	2.009
	1480.9	2.47	0	0	0	95	2.009
	1476.3	2.69	0	0	0	95	2.009
	1406.3	2.72	0	0	0	95	2.009
	1409.3	2.85	0	0	0	95	2.009
	1424.6	2.76	0	0	0	95	2.009
	1436.5	2.83	0	0	0	95	2.009
	1442.8	2.75	0	0	0	95	2.009
	1421.9	2.70	0	0	0	95	2.009
	1452.1	2.83	0	0	0	95	2.009

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1466.5	2.88	0	0	0	95	2.009
	1468.3	3.05	0	0	0	95	2.009
	1389.0	3.00	0	0	0	95	2.009
	1408.5	3.02	0	0	0	95	2.009
	1409.1	3.22	0	0	0	95	2.009
	1496.6	2.97	0	0	0	95	2.009
	1507.7	2.76	0	0	0	95	2.009
	1523.4	2.81	0	0	0	95	2.009
	1539.1	2.86	0	0	0	95	2.009
	1553.6	2.93	0	0	0	95	2.009
	1587.0	2.80	0	0	0	95	2.009
	1554.3	2.74	0	0	0	95	2.009
	1552.8	2.67	0	0	0	95	2.009
	1525.4	2.60	0	0	0	95	2.009
	1523.5	2.39	0	0	0	95	2.009
	1541.5	2.34	0	0	0	95	2.009
	1555.4	2.21	0	0	0	95	2.009
	1587.6	2.11	0	0	0	95	2.009
	1617.7	2.22	0	0	0	95	2.009
	1594.4	2.24	0	0	0	95	2.009
	1578.0	2.41	0	0	0	95	2.009
	1577.0	2.50	0	0	0	95	2.009
	1593.7	2.44	0	0	0	95	2.009
	1617.5	2.61	0	0	0	95	2.009
	1620.3	2.68	0	0	0	95	2.009
	1616.6	2.73	0	0	0	95	2.009
	1647.8	2.77	0	0	0	95	2.009
	1657.8	2.61	0	0	0	95	2.009
	1665.3	2.53	0	0	0	95	2.009
	1681.3	2.69	0	0	0	95	2.009
	1702.0	2.65	0	0	0	95	2.009
	1700.3	2.50	0	0	0	95	2.009
	1685.7	2.40	0	0	0	95	2.009
	1650.1	2.20	0	0	0	95	2.009
	1641.3	2.28	0	0	0	95	2.009
	1637.6	2.35	0	0	0	95	2.009
	1644.2	2.42	0	0	0	95	2.009
	1654.7	1.98	0	0	0	95	2.009
	1757.2	1.98	0	0	0	95	2.009
	1716.5	2.29	0	0	0	95	2.009
	1741.4	2.38	0	0	0	95	2.009
	1749.1	2.32	0	0	0	95	2.009
	1747.1	2.54	0	0	0	95	2.009
	1734.2	2.56	0	0	0	95	2.009
	1760.7	2.76	0	0	0	95	2.009
	1779.3	2.46	0	0	0	95	2.009
	1790.9	2.44	0	0	0	95	2.009
	1797.1	2.33	0	0	0	95	2.009
	1791.4	2.14	0	0	0	95	2.009
	1809.3	2.05	0	0	0	95	2.009
	1836.9	2.18	0	0	0	95	2.009
	1853.6	2.13	0	0	0	95	2.009
	1873.0	2.11	0	0	0	95	2.009
	1886.2	2.19	0	0	0	95	2.009
	1881.3	2.27	0	0	0	95	2.009
	1829.9	2.45	0	0	0	95	2.009
	1852.6	2.66	0	0	0	95	2.009
	1921.9	2.41	0	0	0	95	2.009
	1960.4	2.24	0	0	0	95	2.009
	1967.9	2.16	0	0	0	95	2.009
	1982.5	2.26	0	0	0	95	2.009
	1991.7	2.31	0	0	0	95	2.009
	2001.8	2.22	0	0	0	95	2.009
	1929.6	1.94	0	0	0	95	2.009
	1959.6	1.96	0	0	0	95	2.009
	1954.5	2.01	0	0	0	95	2.009
	1978.7	1.86	0	0	0	95	2.009

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1989.3	1.94	0	0	0	95	2.009
	2049.4	2.09	0	0	0	95	2.009
	2076.9	2.16	0	0	0	95	2.009
	2118.4	2.15	0	0	0	95	2.009
	2145.8	1.75	0	0	0	95	2.009
	2181.0	2.25	0	0	0	95	2.009
	2192.7	2.28	0	0	0	95	2.009
	2248.6	1.86	0	0	0	95	2.009
	2385.8	1.73	0	0	0	95	2.009
	2357.6	1.85	0	0	0	95	2.009
	2381.5	2.05	0	0	0	95	2.009
Serizawa et al. (1969a,b)							
	1318.6	3.96	0	0	0	100	2.006
	1389.9	3.75	0	0	0	100	2.006
	1432.5	3.77	0	0	0	100	2.006
	1429.3	4.37	0	0	0	100	2.006
	1441.4	3.59	0	0	0	100	2.006
	1526.2	4.10	0	0	0	100	2.006
	1624.0	3.60	0	0	0	100	2.006
	1718.9	3.45	0	0	0	100	2.006
	1723.2	3.65	0	0	0	100	2.006
	1869.3	3.54	0	0	0	100	2.006
	1947.2	2.89	0	0	0	100	2.006
	1877.2	2.75	0	0	0	100	2.006
	1202.8	2.59	0	0	0	100	1.993
	1201.9	2.90	0	0	0	100	1.993
	1326.9	2.47	0	0	0	100	1.993
	1327.2	2.97	0	0	0	100	1.993
	1344.8	2.79	0	0	0	100	1.993
	1395.7	2.34	0	0	0	100	1.993
	1408.4	2.59	0	0	0	100	1.993
	1408.5	2.82	0	0	0	100	1.993
	1450.2	2.67	0	0	0	100	1.993
	1484.6	2.59	0	0	0	100	1.993
	1544.2	2.82	0	0	0	100	1.993
	1659.6	2.09	0	0	0	100	1.993
	1687.8	2.07	0	0	0	100	1.993
	1686.0	2.54	0	0	0	100	1.993
	1302.9	2.51	0	0	0	100	1.957
	1302.1	2.83	0	0	0	100	1.957
	1307.5	3.17	0	0	0	100	1.957
	1369.1	3.12	0	0	0	100	1.957
	1436.7	2.73	0	0	0	100	1.957
	1441.7	2.52	0	0	0	100	1.957
	1432.2	2.31	0	0	0	100	1.957
	1463.5	2.25	0	0	0	100	1.957
	1461.6	2.50	0	0	0	100	1.957
	1592.0	2.40	0	0	0	100	1.957
	1592.9	2.13	0	0	0	100	1.957
	1658.8	2.38	0	0	0	100	1.957
	1657.9	2.64	0	0	0	100	1.957
	1877.0	2.51	0	0	0	100	1.957
	1940.7	2.48	0	0	0	100	1.957
	1936.6	2.70	0	0	0	100	1.957
	2144.6	3.08	0	0	0	100	1.957
	2136.4	3.40	0	0	0	100	1.957
VanCraeynest and Weilbacher (1969)†							
	373.2	7.41	0	0	0	100	2.000
	473.2	5.87	0	0	0	100	2.000
	573.2	4.87	0	0	0	100	2.000
	673.2	4.37	0	0	0	100	2.000
	773.2	3.97	0	0	0	100	2.000
	873.2	3.54	0	0	0	100	2.000
	973.2	3.25	0	0	0	100	2.000
	1073.2	3.05	0	0	0	100	2.000
	1273.2	2.53	0	0	0	100	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1473.2	2.37	0	0	0	100	2.000
	1673.2	2.08	0	0	0	100	2.000
	1873.2	1.99	0	0	0	100	2.000
	2073.2	2.12	0	0	0	100	2.000
	2273.2	2.53	0	0	0	100	2.000
	2473.2	3.30	0	0	0	100	2.000
	2573.2	3.76	0	0	0	100	2.000
Giby (1969)							
	406.1	4.46	0	0	25	95.5	1.989
	429.1	4.75	0	0	25	95.5	1.989
	476.1	4.48	0	0	25	95.5	1.989
	524.1	4.14	0	0	25	95.5	1.989
	573.1	4.02	0	0	25	95.5	1.989
	623.1	3.88	0	0	25	95.5	1.989
	676.1	3.65	0	0	25	95.5	1.989
	725.1	3.47	0	0	25	95.5	1.989
	774.1	3.25	0	0	25	95.5	1.989
	849.1	3.00	0	0	25	95.5	1.989
	875.1	2.99	0	0	25	95.5	1.989
	923.1	2.91	0	0	25	95.5	1.989
	974.1	2.79	0	0	25	95.5	1.989
	1024.2	2.69	0	0	25	95.5	1.989
	1080.2	2.47	0	0	25	95.5	1.989
	1123.2	2.43	0	0	25	95.5	1.989
	1174.2	2.37	0	0	25	95.5	1.989
	1248.2	2.38	0	0	25	95.5	1.989
	1275.2	2.25	0	0	25	95.5	1.989
	1327.2	2.17	0	0	25	95.5	1.989
	1376.2	2.13	0	0	25	95.5	1.989
	1425.2	2.09	0	0	25	95.5	1.989
	1480.2	2.02	0	0	25	95.5	1.989
	447.1	6.23	0	0	25	95.5	2.000
	473.1	6.47	0	0	25	95.5	2.000
	524.1	5.86	0	0	25	95.5	2.000
	573.1	5.54	0	0	25	95.5	2.000
	623.1	5.02	0	0	25	95.5	2.000
	675.1	4.50	0	0	25	95.5	2.000
	725.1	4.29	0	0	25	95.5	2.000
	773.1	3.99	0	0	25	95.5	2.000
	825.1	3.90	0	0	25	95.5	2.000
	876.1	3.47	0	0	25	95.5	2.000
	923.1	3.31	0	0	25	95.5	2.000
	973.1	3.04	0	0	25	95.5	2.000
	1025.2	2.83	0	0	25	95.5	2.000
	1073.2	2.75	0	0	25	95.5	2.000
	1123.2	2.62	0	0	25	95.5	2.000
	1174.2	2.55	0	0	25	95.5	2.000
	1227.2	2.40	0	0	25	95.5	2.000
	1274.2	2.33	0	0	25	95.5	2.000
	1323.2	2.30	0	0	25	95.5	2.000
	1377.2	2.26	0	0	25	95.5	2.000
	1424.2	2.20	0	0	25	95.5	2.000
	1473.2	2.13	0	0	25	95.5	2.000
	1368.2	2.25	0	0	25	95.5	2.000
	1272.2	2.43	0	0	25	95.5	2.000
	1174.2	2.60	0	0	25	95.5	2.000
	1068.2	2.77	0	0	25	95.5	2.000
	939.1	3.21	0	0	25	95.5	2.000
	867.1	3.56	0	0	25	95.5	2.000
	766.1	4.06	0	0	25	95.5	2.000
	681.1	4.64	0	0	25	95.5	2.000
	560.1	5.21	0	0	25	95.5	2.000
	471.1	6.11	0	0	25	95.5	2.000
	426.1	6.30	0	0	25	95.5	2.000
	416.1	4.81	0	0	25	95.5	2.000
	416.1	5.06	0	0	25	95.5	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	416.1	5.30	0	0	25	95.5	2.000
	442.1	4.62	0	0	25	95.5	2.000
	483.1	4.65	0	0	25	95.5	2.000
	530.1	4.59	0	0	25	95.5	2.000
	573.1	4.37	0	0	25	95.5	2.000
	630.1	4.28	0	0	25	95.5	2.000
	673.1	4.08	0	0	25	95.5	2.000
	733.1	3.88	0	0	25	95.5	2.000
	773.1	3.82	0	0	25	95.5	2.000
	827.1	3.62	0	0	25	95.5	2.000
	873.1	3.40	0	0	25	95.5	2.000
	925.1	3.30	0	0	25	95.5	2.000
	976.1	3.01	0	0	25	95.5	2.000
	1027.2	2.94	0	0	25	95.5	2.000
	1092.2	2.72	0	0	25	95.5	2.000
	1131.2	2.63	0	0	25	95.5	2.000
	1213.2	2.54	0	0	25	95.5	2.000
	1261.2	2.32	0	0	25	95.5	2.000
	1323.2	2.31	0	0	25	95.5	2.000
	1376.2	2.29	0	0	25	95.5	2.000
	1427.2	2.14	0	0	25	95.5	2.000
	1474.2	2.09	0	0	25	95.5	2.000
	1527.2	2.12	0	0	25	95.5	2.000
	1576.2	1.98	0	0	25	95.5	2.000
	1623.2	1.96	0	0	25	95.5	2.000
	1682.2	2.01	0	0	25	95.5	2.000
	1720.2	1.89	0	0	25	95.5	2.000
	1773.2	1.90	0	0	25	95.5	2.000
	1822.2	1.93	0	0	25	95.5	2.000
	1873.2	1.86	0	0	25	95.5	2.000
	1826.2	1.97	0	0	25	95.5	2.000
	1759.2	2.07	0	0	25	95.5	2.000
	1752.2	1.75	0	0	25	95.5	2.000
	1648.2	1.93	0	0	25	95.5	2.000
	1536.2	2.13	0	0	25	95.5	2.000
	1423.2	2.27	0	0	25	95.5	2.000
	1312.2	2.31	0	0	25	95.5	2.000
	1222.2	2.51	0	0	25	95.5	2.000
	1111.2	2.64	0	0	25	95.5	2.000
	1008.1	2.84	0	0	25	95.5	2.000
	889.1	3.84	0	0	25	95.5	2.000
	634.1	4.69	0	0	25	95.5	2.000
	623.1	4.64	0	0	25	95.5	2.000
	558.1	5.49	0	0	25	95.5	2.000
	525.1	5.70	0	0	25	95.5	2.000
	464.1	6.13	0	0	25	95.5	2.000
	423.1	6.17	0	0	25	95.5	2.000
	457.1	2.58	0	0	25	95.5	1.933
	475.1	2.49	0	0	25	95.5	1.933
	547.1	2.33	0	0	25	95.5	1.933
	584.1	2.39	0	0	25	95.5	1.933
	592.1	2.26	0	0	25	95.5	1.933
	625.1	2.25	0	0	25	95.5	1.933
	696.1	2.20	0	0	25	95.5	1.933
	698.1	2.16	0	0	25	95.5	1.933
	731.1	2.11	0	0	25	95.5	1.933
	773.1	2.09	0	0	25	95.5	1.933
	887.1	1.94	0	0	25	95.5	1.933
	923.1	1.86	0	0	25	95.5	1.933
	979.1	1.85	0	0	25	95.5	1.933
	1024.2	1.76	0	0	25	95.5	1.933
	1073.2	1.74	0	0	25	95.5	1.933
	1127.2	1.66	0	0	25	95.5	1.933
	1182.2	1.61	0	0	25	95.5	1.933
	1223.2	1.57	0	0	25	95.5	1.933
	1278.2	1.52	0	0	25	95.5	1.933
	1333.2	1.50	0	0	25	95.5	1.933

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1375.2	1.52	0	0	25	95.5	1.933
	1423.2	1.48	0	0	25	95.5	1.933
	378.1	3.52	0	0	25	95.5	1.964
	441.1	3.49	0	0	25	95.5	1.964
	475.1	3.35	0	0	25	95.5	1.964
	536.1	3.20	0	0	25	95.5	1.964
	573.1	2.95	0	0	25	95.5	1.964
	637.1	2.84	0	0	25	95.5	1.964
	673.1	2.72	0	0	25	95.5	1.964
	733.1	2.64	0	0	25	95.5	1.964
	790.1	2.56	0	0	25	95.5	1.964
	827.1	2.48	0	0	25	95.5	1.964
	876.1	2.40	0	0	25	95.5	1.964
	921.1	2.22	0	0	25	95.5	1.964
	976.1	2.20	0	0	25	95.5	1.964
	1025.2	2.09	0	0	25	95.5	1.964
	1073.2	2.09	0	0	25	95.5	1.964
	1124.2	1.95	0	0	25	95.5	1.964
	1181.2	1.94	0	0	25	95.5	1.964
	1225.2	1.88	0	0	25	95.5	1.964
	1276.2	1.80	0	0	25	95.5	1.964
	1325.2	1.72	0	0	25	95.5	1.964
	1390.2	1.62	0	0	25	95.5	1.964
	1435.2	1.73	0	0	25	95.5	1.964
	1473.2	1.67	0	0	25	95.5	1.964
	429.1	3.62	0	0	25	95.5	1.954
	477.1	3.15	0	0	25	95.5	1.954
	536.1	3.05	0	0	25	95.5	1.954
	591.1	2.94	0	0	25	95.5	1.954
	625.1	2.79	0	0	25	95.5	1.954
	672.1	2.54	0	0	25	95.5	1.954
	737.1	2.67	0	0	25	95.5	1.954
	779.1	2.44	0	0	25	95.5	1.954
	823.1	2.46	0	0	25	95.5	1.954
	877.1	2.32	0	0	25	95.5	1.954
	924.1	2.28	0	0	25	95.5	1.954
	985.1	2.12	0	0	25	95.5	1.954
	1024.2	2.05	0	0	25	95.5	1.954
	1084.2	2.01	0	0	25	95.5	1.954
	1128.2	1.94	0	0	25	95.5	1.954
	1172.2	1.94	0	0	25	95.5	1.954
	1224.2	1.84	0	0	25	95.5	1.954
	1277.2	1.78	0	0	25	95.5	1.954
	1320.2	1.80	0	0	25	95.5	1.954
	1383.2	1.69	0	0	25	95.5	1.954
	1432.2	1.73	0	0	25	95.5	1.954
	1473.2	1.62	0	0	25	95.5	1.954
	397.1	3.69	0	0	25	95.5	1.972
	440.1	4.01	0	0	25	95.5	1.972
	485.1	3.50	0	0	25	95.5	1.972
	562.1	3.25	0	0	25	95.5	1.972
	582.1	3.24	0	0	25	95.5	1.972
	623.1	3.14	0	0	25	95.5	1.972
	674.1	3.02	0	0	25	95.5	1.972
	725.1	2.85	0	0	25	95.5	1.972
	773.1	2.85	0	0	25	95.5	1.972
	823.1	2.62	0	0	25	95.5	1.972
	862.1	2.54	0	0	25	95.5	1.972
	924.1	2.39	0	0	25	95.5	1.972
	974.1	2.25	0	0	25	95.5	1.972
	1039.2	2.21	0	0	25	95.5	1.972
	1078.2	2.11	0	0	25	95.5	1.972
	1123.2	2.05	0	0	25	95.5	1.972
	1183.2	1.95	0	0	25	95.5	1.972
	1233.2	1.93	0	0	25	95.5	1.972
	1275.2	1.93	0	0	25	95.5	1.972

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1324.2	1.88	0	0	25	95.5	1.972
	1379.2	1.81	0	0	25	95.5	1.972
	1425.2	1.77	0	0	25	95.5	1.972
	1473.2	1.82	0	0	25	95.5	1.972
Sheely (1969)†							
	282.2	9.36	0	0	0	98.1	2.003
	282.2	8.83	0	0	0	98.1	2.003
	460.9	8.32	0	0	0	98.1	2.003
	460.9	8.23	0	0	0	98.1	2.003
	468.6	8.03	0	0	0	98.1	2.003
	665.4	6.37	0	0	0	98.1	2.003
	642.1	6.21	0	0	0	98.1	2.003
	662.8	6.12	0	0	0	98.1	2.003
	665.4	6.02	0	0	0	98.1	2.003
	867.3	4.95	0	0	0	98.1	2.003
	872.5	4.83	0	0	0	98.1	2.003
	869.9	4.67	0	0	0	98.1	2.003
	869.9	4.56	0	0	0	98.1	2.003
	1064.1	3.70	0	0	0	98.1	2.003
	1069.3	3.79	0	0	0	98.1	2.003
	1258.3	3.14	0	0	0	98.1	2.003
	1263.4	3.27	0	0	0	98.1	2.003
	1468.0	2.41	0	0	0	98.1	2.003
	1465.4	2.54	0	0	0	98.1	2.003
	1475.7	2.74	0	0	0	98.1	2.003
	352.1	7.93	0	0	0	98.1	2.003
	359.9	8.10	0	0	0	98.1	2.003
	466.0	7.61	0	0	0	98.1	2.003
	479.0	7.69	0	0	0	98.1	2.003
	559.2	6.55	0	0	0	98.1	2.003
	567.0	6.66	0	0	0	98.1	2.003
	561.8	6.77	0	0	0	98.1	2.003
	660.2	5.80	0	0	0	98.1	2.003
	670.6	5.71	0	0	0	98.1	2.003
	768.9	5.03	0	0	0	98.1	2.003
	771.5	5.16	0	0	0	98.1	2.003
	756.0	5.19	0	0	0	98.1	2.003
	766.4	5.25	0	0	0	98.1	2.003
	864.7	4.66	0	0	0	98.1	2.003
	854.4	4.72	0	0	0	98.1	2.003
	857.0	4.86	0	0	0	98.1	2.003
	965.7	4.15	0	0	0	98.1	2.003
	976.1	4.24	0	0	0	98.1	2.003
	960.5	4.29	0	0	0	98.1	2.003
	1056.3	3.80	0	0	0	98.1	2.003
	1066.7	3.91	0	0	0	98.1	2.003
	1064.1	4.00	0	0	0	98.1	2.003
	1069.3	3.96	0	0	0	98.1	2.003
	1165.1	3.24	0	0	0	98.1	2.003
	1165.1	3.41	0	0	0	98.1	2.003
	1165.1	3.69	0	0	0	98.1	2.003
	1268.6	2.99	0	0	0	98.1	2.003
	1286.7	3.08	0	0	0	98.1	2.003
	1276.4	3.16	0	0	0	98.1	2.003
	1369.6	2.65	0	0	0	98.1	2.003
	1367.0	2.91	0	0	0	98.1	2.003
	1364.4	3.03	0	0	0	98.1	2.003
	1486.1	2.65	0	0	0	98.1	2.003
	534.2	6.34	0	0	0	98.1	2.003
	531.2	6.45	0	0	0	98.1	2.003
	748.0	4.69	0	0	0	98.1	2.003
	757.2	4.89	0	0	0	98.1	2.003
	886.8	3.98	0	0	0	98.1	2.003
	880.9	4.22	0	0	0	98.1	2.003
	986.5	3.68	0	0	0	98.1	2.003
	986.6	3.83	0	0	0	98.1	2.003

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1179.8	3.02	0	0	0	98.1	2.003
	1173.9	3.17	0	0	0	98.1	2.003
	1315.9	2.80	0	0	0	98.1	2.003
	1319.0	2.92	0	0	0	98.1	2.003
	1355.2	2.68	0	0	0	98.1	2.003
	1442.7	2.34	0	0	0	98.1	2.003
	1482.1	2.38	0	0	0	98.1	2.003
	1482.2	2.53	0	0	0	98.1	2.003
	1560.8	2.42	0	0	0	98.1	2.003
	1587.9	2.22	0	0	0	98.1	2.003
	1591.0	2.43	0	0	0	98.1	2.003
	1606.1	2.28	0	0	0	98.1	2.003
	1639.3	2.19	0	0	0	98.1	2.003
	1648.4	2.29	0	0	0	98.1	2.003
	1666.6	2.25	0	0	0	98.1	2.003
	1745.2	2.25	0	0	0	98.1	2.003
	1769.3	2.05	0	0	0	98.1	2.003
	1772.4	2.18	0	0	0	98.1	2.003
	1860.1	2.09	0	0	0	98.1	2.003
	1875.2	2.07	0	0	0	98.1	2.003
	1905.5	2.00	0	0	0	98.1	2.003
	1972.0	1.99	0	0	0	98.1	2.003
	1972.1	2.15	0	0	0	98.1	2.003
	2005.3	1.98	0	0	0	98.1	2.003
	2005.3	2.18	0	0	0	98.1	2.003
	2108.1	2.03	0	0	0	98.1	2.003
	2111.2	2.18	0	0	0	98.1	2.003
	2093.1	2.28	0	0	0	98.1	2.003
	2096.2	2.46	0	0	0	98.1	2.003
	2168.6	1.87	0	0	0	98.1	2.003
	2183.8	2.06	0	0	0	98.1	2.003
	2189.7	1.89	0	0	0	98.1	2.003
	2277.6	2.16	0	0	0	98.1	2.003
	2277.6	2.32	0	0	0	98.1	2.003
	2304.7	2.06	0	0	0	98.1	2.003
	2392.5	2.33	0	0	0	98.1	2.003
	2371.4	2.37	0	0	0	98.1	2.003
	2377.5	2.54	0	0	0	98.1	2.003
	360.5	8.03	0	0	0	98.1	2.003
	363.2	8.30	0	0	0	98.1	2.003
	468.1	7.15	0	0	0	98.1	2.003
	462.5	6.91	0	0	0	98.1	2.003
	465.4	6.75	0	0	0	98.1	2.003
	567.3	6.02	0	0	0	98.1	2.003
	573.0	5.88	0	0	0	98.1	2.003
	567.4	5.64	0	0	0	98.1	2.003
	655.0	5.24	0	0	0	98.1	2.003
	672.0	5.20	0	0	0	98.1	2.003
	669.1	5.35	0	0	0	98.1	2.003
	776.4	5.25	0	0	0	98.1	2.003
	779.5	4.02	0	0	0	98.1	2.003
	855.7	4.36	0	0	0	98.1	2.003
	869.9	4.27	0	0	0	98.1	2.003
	960.3	3.86	0	0	0	98.1	2.003
	954.7	3.66	0	0	0	98.1	2.003
	960.4	3.48	0	0	0	98.1	2.003
	1059.3	3.14	0	0	0	98.1	2.003
	1059.3	3.28	0	0	0	98.1	2.003
	1064.9	3.44	0	0	0	98.1	2.003
	1161.0	2.96	0	0	0	98.1	2.003
	1177.9	3.08	0	0	0	98.1	2.003
	1163.8	3.19	0	0	0	98.1	2.003
	1276.8	2.64	0	0	0	98.1	2.003
	1268.3	2.75	0	0	0	98.1	2.003
	1268.3	2.89	0	0	0	98.1	2.003
	1353.1	2.47	0	0	0	98.1	2.003
	1372.9	2.52	0	0	0	98.1	2.003

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1358.7	2.63	0	0	0	98.1	2.003
	1466.1	2.26	0	0	0	98.1	2.003
	1466.1	2.37	0	0	0	98.1	2.003
	1466.0	2.54	0	0	0	98.1	2.003
	1562.1	2.09	0	0	0	98.1	2.003
	1579.1	2.07	0	0	0	98.1	2.003
	1573.4	2.21	0	0	0	98.1	2.003
	1677.9	2.00	0	0	0	98.1	2.003
	1683.5	2.18	0	0	0	98.1	2.003
	1762.7	1.76	0	0	0	98.1	2.003
	1779.6	1.79	0	0	0	98.1	2.003
	1768.3	1.96	0	0	0	98.1	2.003
	674.5	5.74	0	0	0	98.1	2.003
	686.6	5.83	0	0	0	98.1	2.003
	674.6	5.93	0	0	0	98.1	2.003
	680.7	6.03	0	0	0	98.1	2.003
	798.1	4.57	0	0	0	98.1	2.003
	813.2	4.46	0	0	0	98.1	2.003
	867.7	4.95	0	0	0	98.1	2.003
	876.7	4.88	0	0	0	98.1	2.003
	891.8	4.79	0	0	0	98.1	2.003
	876.7	4.73	0	0	0	98.1	2.003
	1078.8	3.72	0	0	0	98.1	2.003
	1097.0	3.65	0	0	0	98.1	2.003
	1084.9	3.84	0	0	0	98.1	2.003
	1069.7	3.25	0	0	0	98.1	2.003
	1084.8	3.30	0	0	0	98.1	2.003
	1099.9	3.23	0	0	0	98.1	2.003
	1084.8	3.42	0	0	0	98.1	2.003
	1266.0	3.10	0	0	0	98.1	2.003
	1281.1	3.08	0	0	0	98.1	2.003
	1480.4	2.59	0	0	0	98.1	2.003
	1483.4	2.44	0	0	0	98.1	2.003
	1649.5	2.21	0	0	0	98.1	2.003
	1673.6	2.24	0	0	0	98.1	2.003
	1673.6	2.11	0	0	0	98.1	2.003
	1863.9	1.98	0	0	0	98.1	2.003
	1888.1	1.99	0	0	0	98.1	2.003
	1873.0	2.17	0	0	0	98.1	2.003
	2054.2	2.05	0	0	0	98.1	2.003
	2075.4	2.00	0	0	0	98.1	2.003
	2274.7	1.94	0	0	0	98.1	2.003
	2268.7	2.12	0	0	0	98.1	2.003
	2519.5	2.45	0	0	0	98.1	2.003
	2522.4	2.09	0	0	0	98.1	2.003
	2767.1	2.28	0	0	0	98.1	2.003
	299.4	9.16	0	0	0	98.1	2.003
	286.5	8.04	0	0	0	98.1	2.003
	306.9	8.50	0	0	0	98.1	2.003
	334.9	8.27	0	0	0	98.1	2.003
	391.5	8.06	0	0	0	98.1	2.003
	377.0	7.84	0	0	0	98.1	2.003
	348.1	7.50	0	0	0	98.1	2.003
	393.9	7.71	0	0	0	98.1	2.003
	394.1	7.83	0	0	0	98.1	2.003
	470.5	7.20	0	0	0	98.1	2.003
	453.0	6.91	0	0	0	98.1	2.003
	467.3	6.92	0	0	0	98.1	2.003
	467.5	7.03	0	0	0	98.1	2.003
	546.9	6.28	0	0	0	98.1	2.003
	578.4	6.25	0	0	0	98.1	2.003
	590.0	6.36	0	0	0	98.1	2.003
	678.0	5.39	0	0	0	98.1	2.003
	677.8	5.27	0	0	0	98.1	2.003
	666.2	5.20	0	0	0	98.1	2.003
	677.6	5.07	0	0	0	98.1	2.003

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	763.7	4.99	0	0	0	98.1	2.003
	860.9	4.42	0	0	0	98.1	2.003
	875.1	4.32	0	0	0	98.1	2.003
	884.0	4.48	0	0	0	98.1	2.003
	972.4	3.82	0	0	0	98.1	2.003
	986.7	3.75	0	0	0	98.1	2.003
	1066.9	3.47	0	0	0	98.1	2.003
	1058.4	3.61	0	0	0	98.1	2.003
	1072.9	3.71	0	0	0	98.1	2.003
	1084.3	3.55	0	0	0	98.1	2.003
	1184.6	3.21	0	0	0	98.1	2.003
	1184.4	3.00	0	0	0	98.1	2.003
	1270.6	2.97	0	0	0	98.1	2.003
	1288.0	3.04	0	0	0	98.1	2.003
	1282.3	3.16	0	0	0	98.1	2.003
	303.3	9.14	0	0	0	98.1	2.003
	382.3	8.55	0	0	0	98.1	2.003
	475.5	6.93	0	0	0	98.1	2.003
	475.5	6.75	0	0	0	98.1	2.003
	557.4	6.23	0	0	0	98.1	2.003
	580.0	6.15	0	0	0	98.1	2.003
	577.1	5.86	0	0	0	98.1	2.003
	588.4	5.84	0	0	0	98.1	2.003
	684.4	5.30	0	0	0	98.1	2.003
	687.3	5.20	0	0	0	98.1	2.003
	678.8	5.14	0	0	0	98.1	2.003
	766.3	4.86	0	0	0	98.1	2.003
	777.6	4.76	0	0	0	98.1	2.003
	836.9	4.34	0	0	0	98.1	2.003
	848.2	4.28	0	0	0	98.1	2.003
	890.6	4.19	0	0	0	98.1	2.003
	890.6	4.03	0	0	0	98.1	2.003
	961.1	3.85	0	0	0	98.1	2.003
	975.3	3.79	0	0	0	98.1	2.003
	1079.7	3.45	0	0	0	98.1	2.003
	1091.0	3.43	0	0	0	98.1	2.003
	1076.9	3.29	0	0	0	98.1	2.003
	1158.8	3.17	0	0	0	98.1	2.003
	1172.9	3.18	0	0	0	98.1	2.003
	1178.6	3.04	0	0	0	98.1	2.003
	1153.2	2.94	0	0	0	98.1	2.003
	1288.7	2.76	0	0	0	98.1	2.003
	1294.3	2.64	0	0	0	98.1	2.003
	1376.2	2.51	0	0	0	98.1	2.003
	1398.8	2.40	0	0	0	98.1	2.003
	1398.8	2.52	0	0	0	98.1	2.003
	1469.4	2.42	0	0	0	98.1	2.003
	1472.2	2.54	0	0	0	98.1	2.003
	1571.0	2.15	0	0	0	98.1	2.003
	1582.3	2.32	0	0	0	98.1	2.003
	1596.4	2.23	0	0	0	98.1	2.003
	1599.3	2.38	0	0	0	98.1	2.003
	1672.7	2.21	0	0	0	98.1	2.003
	1684.0	2.09	0	0	0	98.1	2.003
	1774.3	1.95	0	0	0	98.1	2.003
	1785.6	2.08	0	0	0	98.1	2.003
	1794.1	2.23	0	0	0	98.1	2.003
Ferro et al. (1969)*							
	1073.2	3.05	0	0	0	90	2.000
	1273.2	2.58	0	0	0	90	2.000
	1473.2	2.22	0	0	0	90	2.000
	1673.2	1.96	0	0	0	90	2.000
Conway and Feith (1969)$^{\diamond}$							
	305.9	7.41	0	0	0	100.0	2.000
	406.6	6.48	0	0	0	100.0	2.000
	485.2	5.91	0	0	0	100.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	598.1	5.41	0	0	0	100.0	2.000
	598.2	5.51	0	0	0	100.0	2.000
	570.2	5.74	0	0	0	100.0	2.000
	688.6	5.15	0	0	0	100.0	2.000
	671.4	5.10	0	0	0	100.0	2.000
	823.4	4.21	0	0	0	100.0	2.000
	789.7	4.44	0	0	0	100.0	2.000
	807.1	4.67	0	0	0	100.0	2.000
	897.2	4.17	0	0	0	100.0	2.000
	487.0	6.98	0	0	0	100.0	2.000
	880.9	4.61	0	0	0	100.0	2.000
	908.9	4.36	0	0	0	100.0	2.000
	988.1	4.19	0	0	0	100.0	2.000
	976.3	3.90	0	0	0	100.0	2.000
	953.4	3.82	0	0	0	100.0	2.000
	1004.3	3.66	0	0	0	100.0	2.000
	1010.3	3.83	0	0	0	100.0	2.000
	1049.9	3.73	0	0	0	100.0	2.000
	1111.3	3.08	0	0	0	100.0	2.000
	1150.9	2.98	0	0	0	100.0	2.000
	1196.7	3.14	0	0	0	100.0	2.000
	1179.8	3.26	0	0	0	100.0	2.000
	1247.4	2.87	0	0	0	100.0	2.000
	1292.7	2.81	0	0	0	100.0	2.000
	1270.2	2.97	0	0	0	100.0	2.000
	2183.9	2.29	0	0	0	100.0	2.000
	2286.3	2.36	0	0	0	100.0	2.000
	1791.6	2.10	0	0	0	100.0	2.000
	1797.3	2.16	0	0	0	100.0	2.000
	1803.2	2.25	0	0	0	100.0	2.000
	1723.8	2.33	0	0	0	100.0	2.000
	1661.4	2.44	0	0	0	100.0	2.000
	1678.8	2.64	0	0	0	100.0	2.000
	1587.6	2.47	0	0	0	100.0	2.000
	1565.0	2.56	0	0	0	100.0	2.000
	1604.8	2.58	0	0	0	100.0	2.000
	1575.8	2.18	0	0	0	100.0	2.000
	1399.8	2.27	0	0	0	100.0	2.000
	1480.0	2.69	0	0	0	100.0	2.000
	1377.6	2.60	0	0	0	100.0	2.000
	1383.5	2.72	0	0	0	100.0	2.000
	1400.8	2.87	0	0	0	100.0	2.000
	1979.3	2.22	0	0	0	100.0	2.000
	1979.5	2.39	0	0	0	100.0	2.000
	2178.5	2.46	0	0	0	100.0	2.000
	1061.0	3.57	0	0	0	100.0	2.000
	1095.0	3.51	0	0	0	100.0	2.000
	1165.2	2.76	0	0	0	100.0	2.000
	1160.4	2.84	0	0	0	100.0	2.000
	1151.0	3.08	0	0	0	100.0	2.000
	1146.4	3.26	0	0	0	100.0	2.000
	1235.8	3.46	0	0	0	100.0	2.000
	1226.3	3.62	0	0	0	100.0	2.000
	1162.0	3.59	0	0	0	100.0	2.000
	1157.3	3.73	0	0	0	100.0	2.000
	1157.4	3.78	0	0	0	100.0	2.000
	1163.2	4.17	0	0	0	100.0	2.000
	1275.8	3.68	0	0	0	100.0	2.000
	1270.8	3.62	0	0	0	100.0	2.000
	1275.0	3.30	0	0	0	100.0	2.000
	1240.3	3.22	0	0	0	100.0	2.000
	1254.7	3.06	0	0	0	100.0	2.000
	1244.7	2.98	0	0	0	100.0	2.000
	1249.1	2.73	0	0	0	100.0	2.000
	1268.9	2.72	0	0	0	100.0	2.000
	1273.5	2.60	0	0	0	100.0	2.000
	2639.1	3.28	0	0	0	100.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	2653.5	3.12	0	0	0	100.0	2.000
	2658.2	2.97	0	0	0	100.0	2.000
	2564.5	3.09	0	0	0	100.0	2.000
	2510.1	3.06	0	0	0	100.0	2.000
	2504.9	2.93	0	0	0	100.0	2.000
	2524.3	2.76	0	0	0	100.0	2.000
	2534.0	2.68	0	0	0	100.0	2.000
	2519.1	2.62	0	0	0	100.0	2.000
	2435.0	2.58	0	0	0	100.0	2.000
	2419.8	2.45	0	0	0	100.0	2.000
	2345.8	2.48	0	0	0	100.0	2.000
	2346.2	2.68	0	0	0	100.0	2.000
	2302.0	2.82	0	0	0	100.0	2.000
	2312.0	2.89	0	0	0	100.0	2.000
	2307.4	3.01	0	0	0	100.0	2.000
	2376.2	2.82	0	0	0	100.0	2.000
	2237.3	2.60	0	0	0	100.0	2.000
	2202.4	2.45	0	0	0	100.0	2.000
	2147.9	2.38	0	0	0	100.0	2.000
	2158.3	2.64	0	0	0	100.0	2.000
	2133.9	2.78	0	0	0	100.0	2.000
	1053.4	3.66	0	0	0	100.0	2.000
	857.1	4.33	0	0	0	100.0	2.000
	666.6	5.37	0	0	0	100.0	2.000
	457.5	7.01	0	0	0	100.0	2.000
	2013.2	1.82	0	0	0	100.0	2.000
	2008.5	1.93	0	0	0	100.0	2.000
	2014.1	2.22	0	0	0	100.0	2.000
	1974.6	2.24	0	0	0	100.0	2.000
	1974.6	2.26	0	0	0	100.0	2.000
	2014.3	2.33	0	0	0	100.0	2.000
	2014.5	2.41	0	0	0	100.0	2.000
	1975.3	2.57	0	0	0	100.0	2.000
	1871.5	2.57	0	0	0	100.0	2.000
	1901.1	2.54	0	0	0	100.0	2.000
	1901.4	2.69	0	0	0	100.0	2.000
	1891.8	2.83	0	0	0	100.0	2.000
	1896.9	2.89	0	0	0	100.0	2.000
	1817.2	2.60	0	0	0	100.0	2.000
	1846.6	2.46	0	0	0	100.0	2.000
	1866.0	2.32	0	0	0	100.0	2.000
	1831.3	2.24	0	0	0	100.0	2.000
	1791.9	2.34	0	0	0	100.0	2.000
	1836.6	2.44	0	0	0	100.0	2.000
	1772.5	2.49	0	0	0	100.0	2.000
	1762.3	2.37	0	0	0	100.0	2.000
	1757.9	2.60	0	0	0	100.0	2.000
	1708.1	2.42	0	0	0	100.0	2.000
	1668.4	2.34	0	0	0	100.0	2.000
	1673.5	2.44	0	0	0	100.0	2.000
	1649.4	2.71	0	0	0	100.0	2.000
	1718.4	2.61	0	0	0	100.0	2.000
	1718.5	2.69	0	0	0	100.0	2.000
	1718.7	2.76	0	0	0	100.0	2.000
	1718.8	2.83	0	0	0	100.0	2.000
	1714.0	2.89	0	0	0	100.0	2.000
	1560.7	2.85	0	0	0	100.0	2.000
	1561.0	2.99	0	0	0	100.0	2.000
	1561.2	3.05	0	0	0	100.0	2.000
	1472.3	3.11	0	0	0	100.0	2.000
	1482.0	3.01	0	0	0	100.0	2.000
	1413.0	3.12	0	0	0	100.0	2.000
	1378.0	2.92	0	0	0	100.0	2.000
	1338.6	2.97	0	0	0	100.0	2.000
	1437.1	2.84	0	0	0	100.0	2.000
	1382.5	2.69	0	0	0	100.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1451.6	2.64	0	0	0	100.0	2.000
	1471.4	2.69	0	0	0	100.0	2.000
	1466.1	2.52	0	0	0	100.0	2.000
	1466.1	2.49	0	0	0	100.0	2.000
	1510.5	2.45	0	0	0	100.0	2.000
	1515.8	2.65	0	0	0	100.0	2.000
Bates (1970)							
	289.1	8.78	0	0	0	98.4	2.000
	289.1	9.42	0	0	0	98.4	2.000
	477.1	8.07	0	0	0	98.4	2.000
	469.1	8.36	0	0	0	98.4	2.000
	467.1	8.26	0	0	0	98.4	2.000
	671.1	6.40	0	0	0	98.4	2.000
	672.1	6.25	0	0	0	98.4	2.000
	671.1	6.25	0	0	0	98.4	2.000
	872.1	4.93	0	0	0	98.4	2.000
	876.1	4.80	0	0	0	98.4	2.000
	873.1	5.06	0	0	0	98.4	2.000
	877.1	4.67	0	0	0	98.4	2.000
	1068.2	3.78	0	0	0	98.4	2.000
	1072.2	3.81	0	0	0	98.4	2.000
	1276.2	3.32	0	0	0	98.4	2.000
	1277.2	3.28	0	0	0	98.4	2.000
	1277.2	3.34	0	0	0	98.4	2.000
	1276.2	3.23	0	0	0	98.4	2.000
	1476.2	2.48	0	0	0	98.4	2.000
	1475.2	2.51	0	0	0	98.4	2.000
	1481.2	2.80	0	0	0	98.4	2.000
	367.1	8.12	0	0	0	98.4	2.000
	358.1	7.96	0	0	0	98.4	2.000
	476.1	7.71	0	0	0	98.4	2.000
	476.1	7.68	0	0	0	98.4	2.000
	478.1	7.10	0	0	0	98.4	2.000
	566.1	6.61	0	0	0	98.4	2.000
	560.1	6.75	0	0	0	98.4	2.000
	564.1	6.66	0	0	0	98.4	2.000
	666.1	5.68	0	0	0	98.4	2.000
	673.1	5.66	0	0	0	98.4	2.000
	774.1	5.31	0	0	0	98.4	2.000
	774.1	5.09	0	0	0	98.4	2.000
	767.1	5.30	0	0	0	98.4	2.000
	767.1	5.21	0	0	0	98.4	2.000
	776.1	5.22	0	0	0	98.4	2.000
	875.1	4.70	0	0	0	98.4	2.000
	872.1	4.70	0	0	0	98.4	2.000
	869.1	4.96	0	0	0	98.4	2.000
	978.1	4.36	0	0	0	98.4	2.000
	975.1	4.36	0	0	0	98.4	2.000
	974.1	4.30	0	0	0	98.4	2.000
	1073.2	4.11	0	0	0	98.4	2.000
	1074.2	3.94	0	0	0	98.4	2.000
	1076.2	3.91	0	0	0	98.4	2.000
	1172.2	3.44	0	0	0	98.4	2.000
	1274.2	3.23	0	0	0	98.4	2.000
	1278.2	3.07	0	0	0	98.4	2.000
	1279.2	3.16	0	0	0	98.4	2.000
	1375.2	2.94	0	0	0	98.4	2.000
	1374.2	2.73	0	0	0	98.4	2.000
	1375.2	3.08	0	0	0	98.4	2.000
	1373.2	2.98	0	0	0	98.4	2.000
	1489.2	2.71	0	0	0	98.4	2.000
	539.1	6.40	0	0	0	98.4	2.000
	539.1	6.49	0	0	0	98.4	2.000
	756.1	4.76	0	0	0	98.4	2.000
	761.1	4.95	0	0	0	98.4	2.000
	895.1	4.07	0	0	0	98.4	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	891.1	4.29	0	0	0	98.4	2.000
	994.1	3.78	0	0	0	98.4	2.000
	995.1	3.85	0	0	0	98.4	2.000
	1180.2	3.24	0	0	0	98.4	2.000
	1185.2	3.09	0	0	0	98.4	2.000
	1325.2	2.82	0	0	0	98.4	2.000
	1325.2	2.85	0	0	0	98.4	2.000
	1489.2	2.48	0	0	0	98.4	2.000
	1491.2	2.55	0	0	0	98.4	2.000
	1666.2	2.37	0	0	0	98.4	2.000
	1655.2	2.35	0	0	0	98.4	2.000
	1778.2	2.21	0	0	0	98.4	2.000
	1780.2	2.10	0	0	0	98.4	2.000
	1863.2	2.17	0	0	0	98.4	2.000
	1866.2	2.17	0	0	0	98.4	2.000
	1977.2	2.07	0	0	0	98.4	2.000
	1972.2	2.21	0	0	0	98.4	2.000
	2093.2	2.19	0	0	0	98.4	2.000
	2102.2	2.22	0	0	0	98.4	2.000
	2174.2	2.24	0	0	0	98.4	2.000
	2187.2	2.22	0	0	0	98.4	2.000
	2373.2	2.45	0	0	0	98.4	2.000
	2373.2	2.60	0	0	0	98.4	2.000
	2280.2	2.26	0	0	0	98.4	2.000
	2285.2	2.38	0	0	0	98.4	2.000
	1599.2	2.35	0	0	0	98.4	2.000
	1601.2	2.46	0	0	0	98.4	2.000
	1609.2	2.30	0	0	0	98.4	2.000
	1360.2	2.79	0	0	0	98.4	2.000
	1453.2	2.40	0	0	0	98.4	2.000
	1562.2	2.45	0	0	0	98.4	2.000
	1649.2	2.35	0	0	0	98.4	2.000
	1750.2	2.36	0	0	0	98.4	2.000
	1907.2	2.10	0	0	0	98.4	2.000
	2005.2	2.08	0	0	0	98.4	2.000
	2007.2	2.29	0	0	0	98.4	2.000
	2109.2	2.15	0	0	0	98.4	2.000
	2104.2	2.24	0	0	0	98.4	2.000
	2195.2	2.31	0	0	0	98.4	2.000
	2295.2	2.44	0	0	0	98.4	2.000
	2384.2	2.38	0	0	0	98.4	2.000
	361.1	8.04	0	0	0	98.4	2.000
	362.1	8.32	0	0	0	98.4	2.000
	464.1	6.88	0	0	0	98.4	2.000
	469.1	6.80	0	0	0	98.4	2.000
	464.1	7.20	0	0	0	98.4	2.000
	571.1	5.64	0	0	0	98.4	2.000
	577.1	5.96	0	0	0	98.4	2.000
	577.1	6.08	0	0	0	98.4	2.000
	661.1	5.26	0	0	0	98.4	2.000
	682.1	5.17	0	0	0	98.4	2.000
	786.1	4.40	0	0	0	98.4	2.000
	784.1	4.36	0	0	0	98.4	2.000
	785.1	4.55	0	0	0	98.4	2.000
	866.1	4.12	0	0	0	98.4	2.000
	867.1	4.02	0	0	0	98.4	2.000
	961.1	3.67	0	0	0	98.4	2.000
	961.1	3.58	0	0	0	98.4	2.000
	961.1	3.90	0	0	0	98.4	2.000
	1069.2	3.32	0	0	0	98.4	2.000
	1071.2	3.27	0	0	0	98.4	2.000
	1069.2	3.45	0	0	0	98.4	2.000
	1171.2	3.01	0	0	0	98.4	2.000
	1174.2	3.04	0	0	0	98.4	2.000
	1173.2	3.20	0	0	0	98.4	2.000
	1270.2	2.78	0	0	0	98.4	2.000
	1269.2	2.84	0	0	0	98.4	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1270.2	2.78	0	0	0	98.4	2.000
	1361.2	2.52	0	0	0	98.4	2.000
	1361.2	2.61	0	0	0	98.4	2.000
	1360.2	2.56	0	0	0	98.4	2.000
	1361.2	2.61	0	0	0	98.4	2.000
	1471.2	2.51	0	0	0	98.4	2.000
	1472.2	2.55	0	0	0	98.4	2.000
	1469.2	2.23	0	0	0	98.4	2.000
	1569.2	2.37	0	0	0	98.4	2.000
	1571.2	2.38	0	0	0	98.4	2.000
	1569.2	2.43	0	0	0	98.4	2.000
	1683.2	2.31	0	0	0	98.4	2.000
	1683.2	2.35	0	0	0	98.4	2.000
	1758.2	2.27	0	0	0	98.4	2.000
	1756.2	2.15	0	0	0	98.4	2.000
	1760.2	2.26	0	0	0	98.4	2.000
	673.1	5.47	0	0	0	98.4	2.000
	1283.2	2.72	0	0	0	98.4	2.000
	673.1	5.34	0	0	0	98.4	2.000
	672.1	5.84	0	0	0	98.4	2.000
	673.1	5.94	0	0	0	98.4	2.000
	673.1	5.84	0	0	0	98.4	2.000
	670.1	6.03	0	0	0	98.4	2.000
	878.1	4.93	0	0	0	98.4	2.000
	877.1	4.96	0	0	0	98.4	2.000
	877.1	4.77	0	0	0	98.4	2.000
	877.1	4.77	0	0	0	98.4	2.000
	1088.2	3.81	0	0	0	98.4	2.000
	1088.2	3.78	0	0	0	98.4	2.000
	1088.2	3.72	0	0	0	98.4	2.000
	1088.2	3.72	0	0	0	98.4	2.000
	1271.2	3.17	0	0	0	98.4	2.000
	1274.2	3.07	0	0	0	98.4	2.000
	1268.2	3.17	0	0	0	98.4	2.000
	1267.2	3.18	0	0	0	98.4	2.000
	1478.2	2.52	0	0	0	98.4	2.000
	1481.2	2.54	0	0	0	98.4	2.000
	1486.2	2.50	0	0	0	98.4	2.000
	1485.2	2.52	0	0	0	98.4	2.000
	1672.2	2.21	0	0	0	98.4	2.000
	1677.2	2.19	0	0	0	98.4	2.000
	1672.2	2.24	0	0	0	98.4	2.000
	1659.2	2.26	0	0	0	98.4	2.000
	1866.2	2.01	0	0	0	98.4	2.000
	1876.2	2.03	0	0	0	98.4	2.000
	1881.2	2.02	0	0	0	98.4	2.000
	1876.2	2.23	0	0	0	98.4	2.000
	2061.2	2.10	0	0	0	98.4	2.000
	2077.2	2.10	0	0	0	98.4	2.000
	2074.2	2.13	0	0	0	98.4	2.000
	2276.2	2.21	0	0	0	98.4	2.000
	2278.2	2.24	0	0	0	98.4	2.000
	2525.2	2.60	0	0	0	98.4	2.000
	2532.2	2.35	0	0	0	98.4	2.000
	2773.2	2.43	0	0	0	98.4	2.000
	1100.2	3.29	0	0	0	98.4	2.000
	1089.2	3.35	0	0	0	98.4	2.000
	1090.2	3.49	0	0	0	98.4	2.000
	1099.2	3.36	0	0	0	98.4	2.000
	813.1	4.76	0	0	0	98.4	2.000
	797.1	4.72	0	0	0	98.4	2.000
	289.1	8.07	0	0	0	98.4	2.000
	301.1	8.72	0	0	0	98.4	2.000
	305.1	8.45	0	0	0	98.4	2.000
	332.1	8.20	0	0	0	98.4	2.000
	394.1	8.06	0	0	0	98.4	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	380.1	7.91	0	0	0	98.4	2.000
	466.1	7.03	0	0	0	98.4	2.000
	472.1	7.26	0	0	0	98.4	2.000
	587.1	6.37	0	0	0	98.4	2.000
	583.1	6.30	0	0	0	98.4	2.000
	676.1	5.35	0	0	0	98.4	2.000
	679.1	5.41	0	0	0	98.4	2.000
	763.1	4.95	0	0	0	98.4	2.000
	764.1	5.05	0	0	0	98.4	2.000
	873.1	4.45	0	0	0	98.4	2.000
	876.1	4.22	0	0	0	98.4	2.000
	979.1	3.91	0	0	0	98.4	2.000
	981.1	3.91	0	0	0	98.4	2.000
	1065.2	3.71	0	0	0	98.4	2.000
	1072.2	3.65	0	0	0	98.4	2.000
	1188.2	3.13	0	0	0	98.4	2.000
	1187.2	3.31	0	0	0	98.4	2.000
	1277.2	3.03	0	0	0	98.4	2.000
	1285.2	3.15	0	0	0	98.4	2.000
	1284.2	3.21	0	0	0	98.4	2.000
	1071.2	3.68	0	0	0	98.4	2.000
	880.1	4.51	0	0	0	98.4	2.000
	879.1	4.45	0	0	0	98.4	2.000
	879.1	4.45	0	0	0	98.4	2.000
	678.1	5.16	0	0	0	98.4	2.000
	549.1	6.24	0	0	0	98.4	2.000
	464.1	6.96	0	0	0	98.4	2.000
	460.1	6.98	0	0	0	98.4	2.000
	399.1	7.75	0	0	0	98.4	2.000
	397.1	7.83	0	0	0	98.4	2.000
	370.1	7.62	0	0	0	98.4	2.000
	298.1	9.00	0	0	0	98.4	2.000
	377.1	8.50	0	0	0	98.4	2.000
	474.1	6.82	0	0	0	98.4	2.000
	473.1	6.76	0	0	0	98.4	2.000
	573.1	6.10	0	0	0	98.4	2.000
	583.1	5.81	0	0	0	98.4	2.000
	680.1	5.29	0	0	0	98.4	2.000
	681.1	5.17	0	0	0	98.4	2.000
	678.1	5.26	0	0	0	98.4	2.000
	776.1	4.83	0	0	0	98.4	2.000
	775.1	4.83	0	0	0	98.4	2.000
	891.1	4.13	0	0	0	98.4	2.000
	895.1	4.20	0	0	0	98.4	2.000
	968.1	3.94	0	0	0	98.4	2.000
	973.1	3.91	0	0	0	98.4	2.000
	1087.2	3.42	0	0	0	98.4	2.000
	1081.2	3.45	0	0	0	98.4	2.000
	1172.2	3.20	0	0	0	98.4	2.000
	1173.2	3.13	0	0	0	98.4	2.000
	1292.2	2.81	0	0	0	98.4	2.000
	1291.2	2.77	0	0	0	98.4	2.000
	1377.2	2.62	0	0	0	98.4	2.000
	1380.2	2.59	0	0	0	98.4	2.000
	1473.2	2.50	0	0	0	98.4	2.000
	1477.2	2.56	0	0	0	98.4	2.000
	1578.2	2.27	0	0	0	98.4	2.000
	1584.2	2.42	0	0	0	98.4	2.000
	1673.2	2.20	0	0	0	98.4	2.000
	1679.2	2.17	0	0	0	98.4	2.000
	1769.2	2.06	0	0	0	98.4	2.000
	1792.2	2.21	0	0	0	98.4	2.000
	1786.2	2.16	0	0	0	98.4	2.000
	1595.2	2.43	0	0	0	98.4	2.000
	1596.2	2.38	0	0	0	98.4	2.000
	1400.2	2.58	0	0	0	98.4	2.000
	1399.2	2.52	0	0	0	98.4	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1166.2	3.25	0	0	0	98.4	2.000
	1079.2	3.38	0	0	0	98.4	2.000
	1085.2	3.45	0	0	0	98.4	2.000
	847.1	4.37	0	0	0	98.4	2.000
	847.1	4.40	0	0	0	98.4	2.000
	577.1	5.90	0	0	0	98.4	2.000
	553.1	6.13	0	0	0	98.4	2.000
Van Craeynest and Stora (1970)							
	373.1	6.07	0	0	20	100.0	2.000
	573.1	4.98	0	0	20	100.0	2.000
	773.1	4.18	0	0	20	100.0	2.000
	1073.2	3.37	0	0	20	100.0	2.000
	373.1	6.74	0	0	20	95.0	2.000
	573.1	5.02	0	0	20	95.0	2.000
	773.1	3.82	0	0	20	95.0	2.000
	1073.2	2.94	0	0	20	95.0	2.000
	373.1	5.90	0	0	20	92.0	2.000
	573.1	4.44	0	0	20	92.0	2.000
	773.1	3.60	0	0	20	92.0	2.000
	1073.2	2.78	0	0	20	92.0	2.000
	373.1	5.77	0	0	20	88.5	2.000
	573.1	4.39	0	0	20	88.5	2.000
	773.1	3.41	0	0	20	88.5	2.000
	1073.2	2.76	0	0	20	88.5	2.000
	373.1	4.77	0	0	20	88.5	2.000
	573.1	3.70	0	0	20	88.5	2.000
	773.1	2.99	0	0	20	88.5	2.000
	1073.2	2.51	0	0	20	88.5	2.000
	373.1	4.23	0	0	20	83.0	2.000
	573.1	3.33	0	0	20	83.0	2.000
	773.1	2.78	0	0	20	83.0	2.000
	1073.2	2.36	0	0	20	83.0	2.000
	373.1	4.56	0	0	20	82.7	2.000
	573.1	3.58	0	0	20	82.7	2.000
	773.1	3.03	0	0	20	82.7	2.000
	1073.2	2.55	0	0	20	82.7	2.000
	373.1	4.23	0	0	20	82.5	2.000
	573.1	3.31	0	0	20	82.5	2.000
	773.1	2.76	0	0	20	82.5	2.000
	1073.2	2.34	0	0	20	82.5	2.000
	373.1	3.37	0	0	20	79.0	2.000
	573.1	2.68	0	0	20	79.0	2.000
	773.1	2.16	0	0	20	79.0	2.000
	1073.2	1.88	0	0	20	79.0	2.000
	373.1	2.56	0	0	20	72.3	2.000
	573.1	2.03	0	0	20	72.3	2.000
	773.1	1.69	0	0	20	72.3	2.000
	1073.2	1.46	0	0	20	72.3	2.000
	373.1	2.22	0	0	20	72.3	2.000
	573.1	1.76	0	0	20	72.3	2.000
	773.1	1.45	0	0	20	72.3	2.000
	1073.2	1.26	0	0	20	72.3	2.000
Serizawa et al. (1969b, 1970)†							
	874.3	3.18	0	0	10.17	95.9	1.990
	867.9	3.32	0	0	10.17	95.9	1.990
	874.3	3.30	0	0	10.17	95.9	1.990
	893.6	3.24	0	0	10.17	95.9	1.990
	920.9	3.17	0	0	10.17	95.9	1.990
	952.9	3.07	0	0	10.17	95.9	1.990
	990.0	3.31	0	0	10.17	95.9	1.990
	1039.8	3.21	0	0	10.17	95.9	1.990
	1030.1	3.16	0	0	10.17	95.9	1.990
	1043.0	3.09	0	0	10.17	95.9	1.990
	1057.4	3.08	0	0	10.17	95.9	1.990
	1054.2	3.03	0	0	10.17	95.9	1.990
	1075.1	3.04	0	0	10.17	95.9	1.990

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1083.1	3.10	0	0	10.17	95.9	1.990
	1136.1	3.00	0	0	10.17	95.9	1.990
	1153.8	2.95	0	0	10.17	95.9	1.990
	1182.7	2.97	0	0	10.17	95.9	1.990
	1340.1	2.65	0	0	10.17	95.9	1.990
	1323.9	2.55	0	0	10.17	95.9	1.990
	1330.3	2.48	0	0	10.17	95.9	1.990
	1402.6	2.45	0	0	10.17	95.9	1.990
	1491.0	2.33	0	0	10.17	95.9	1.990
	1500.6	2.37	0	0	10.17	95.9	1.990
	1582.5	2.23	0	0	10.17	95.9	1.990
	1590.6	2.29	0	0	10.17	95.9	1.990
	1653.2	2.18	0	0	10.17	95.9	1.990
	1662.9	2.30	0	0	10.17	95.9	1.990
	1707.8	2.12	0	0	10.17	95.9	1.990
	1775.3	2.02	0	0	10.17	95.9	1.990
	824.7	3.65	0	0	15.37	96.1	1.980
	920.9	3.38	0	0	15.37	96.1	1.980
	967.5	3.36	0	0	15.37	96.1	1.980
	988.4	3.29	0	0	15.37	96.1	1.980
	1027.0	3.37	0	0	15.37	96.1	1.980
	1036.6	3.31	0	0	15.37	96.1	1.980
	1039.8	3.16	0	0	15.37	96.1	1.980
	1068.7	3.16	0	0	15.37	96.1	1.980
	1071.9	3.23	0	0	15.37	96.1	1.980
	1137.8	3.13	0	0	15.37	96.1	1.980
	1116.9	3.06	0	0	15.37	96.1	1.980
	1121.6	3.00	0	0	15.37	96.1	1.980
	1131.2	2.91	0	0	15.37	96.1	1.980
	1158.5	2.79	0	0	15.37	96.1	1.980
	1221.2	2.74	0	0	15.37	96.1	1.980
	1235.7	2.80	0	0	15.37	96.1	1.980
	1219.6	2.92	0	0	15.37	96.1	1.980
	1240.5	2.89	0	0	15.37	96.1	1.980
	1256.6	2.91	0	0	15.37	96.1	1.980
	1309.5	2.53	0	0	15.37	96.1	1.980
	1320.7	2.49	0	0	15.37	96.1	1.980
	1360.9	2.48	0	0	15.37	96.1	1.980
	1380.1	2.48	0	0	15.37	96.1	1.980
	1418.7	2.44	0	0	15.37	96.1	1.980
	1436.4	2.54	0	0	15.37	96.1	1.980
	1505.5	2.53	0	0	15.37	96.1	1.980
	1523.1	2.40	0	0	15.37	96.1	1.980
	1540.8	2.40	0	0	15.37	96.1	1.980
	1491.0	2.43	0	0	15.37	96.1	1.980
	1600.2	2.24	0	0	15.37	96.1	1.980
	1635.6	2.24	0	0	15.37	96.1	1.980
	1764.1	2.11	0	0	15.37	96.1	1.980
	1801.0	2.10	0	0	15.37	96.1	1.980
	869.4	3.06	0	0	19.75	96.0	1.980
	915.9	2.96	0	0	19.75	96.0	1.980
	940.0	2.97	0	0	19.75	96.0	1.980
	970.5	2.89	0	0	19.75	96.0	1.980
	985.0	2.93	0	0	19.75	96.0	1.980
	988.2	2.86	0	0	19.75	96.0	1.980
	989.7	2.77	0	0	19.75	96.0	1.980
	1018.6	2.64	0	0	19.75	96.0	1.980
	1081.5	3.03	0	0	19.75	96.0	1.980
	1108.7	2.78	0	0	19.75	96.0	1.980
	1136.0	2.70	0	0	19.75	96.0	1.980
	1172.9	2.63	0	0	19.75	96.0	1.980
	1240.6	2.97	0	0	19.75	96.0	1.980
	1306.4	2.96	0	0	19.75	96.0	1.980
	1407.6	2.82	0	0	19.75	96.0	1.980
	1439.7	2.70	0	0	19.75	96.0	1.980
	1462.3	2.86	0	0	19.75	96.0	1.980
	1532.9	2.55	0	0	19.75	96.0	1.980

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1590.7	2.47	0	0	19.75	96.0	1.980
	1653.3	2.37	0	0	19.75	96.0	1.980
	1696.7	2.34	0	0	19.75	96.0	1.980
	1691.9	2.43	0	0	19.75	96.0	1.980
	1754.5	2.24	0	0	19.75	96.0	1.980
	1764.1	2.18	0	0	19.75	96.0	1.980
	1830.0	2.17	0	0	19.75	96.0	1.980
Walter et al. (1970)†							
	316.8	8.75	0	0	0	98	2.000
	314.8	8.37	0	0	0	98	2.000
	314.9	8.22	0	0	0	98	2.000
	340.0	8.50	0	0	0	98	2.000
	317.1	7.73	0	0	0	98	2.000
	373.7	8.05	0	0	0	98	2.000
	413.6	7.70	0	0	0	98	2.000
	430.5	7.53	0	0	0	98	2.000
	478.9	6.60	0	0	0	98	2.000
	502.0	6.50	0	0	0	98	2.000
	514.6	6.36	0	0	0	98	2.000
	609.0	5.94	0	0	0	98	2.000
	640.5	5.66	0	0	0	98	2.000
	713.8	5.48	0	0	0	98	2.000
	764.1	5.26	0	0	0	98	2.000
	770.5	4.90	0	0	0	98	2.000
	906.7	4.48	0	0	0	98	2.000
	946.6	4.07	0	0	0	98	2.000
	1034.6	3.81	0	0	0	98	2.000
	1061.8	4.03	0	0	0	98	2.000
	1087.0	3.88	0	0	0	98	2.000
	1149.8	3.76	0	0	0	98	2.000
	1348.9	3.23	0	0	0	98	2.000
	1380.4	3.07	0	0	0	98	2.000
	1413.9	3.08	0	0	0	98	2.000
	1449.5	2.95	0	0	0	98	2.000
	1472.5	3.14	0	0	0	98	2.000
	1514.4	2.90	0	0	0	98	2.000
	1556.3	2.94	0	0	0	98	2.000
	1642.2	2.83	0	0	0	98	2.000
	1679.9	2.87	0	0	0	98	2.000
Giby (1971)							
	415.3	7.97	0	0	0	96.0	2.000
	397.4	7.59	0	0	0	96.0	2.000
	399.8	7.66	0	0	0	96.0	2.000
	413.1	7.61	0	0	0	96.0	2.000
	477.2	7.30	0	0	0	96.0	2.000
	493.0	7.03	0	0	0	96.0	2.000
	580.2	6.42	0	0	0	96.0	2.000
	577.8	6.30	0	0	0	96.0	2.000
	588.7	6.34	0	0	0	96.0	2.000
	588.9	5.93	0	0	0	96.0	2.000
	682.1	5.39	0	0	0	96.0	2.000
	693.0	5.18	0	0	0	96.0	2.000
	855.0	4.69	0	0	0	96.0	2.000
	853.9	4.57	0	0	0	96.0	2.000
	896.2	4.34	0	0	0	96.0	2.000
	909.5	4.34	0	0	0	96.0	2.000
	909.5	4.27	0	0	0	96.0	2.000
	965.3	3.88	0	0	0	96.0	2.000
	999.1	3.73	0	0	0	96.0	2.000
	1031.7	3.88	0	0	0	96.0	2.000
	1031.6	3.97	0	0	0	96.0	2.000
	1321.8	3.01	0	0	0	96.0	2.000
	1335.1	2.87	0	0	0	96.0	2.000
	1400.4	2.80	0	0	0	96.0	2.000
	1412.4	2.94	0	0	0	96.0	2.000
	1492.1	2.75	0	0	0	96.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1511.5	2.63	0	0	0	96.0	2.000
	1507.9	2.55	0	0	0	96.0	2.000
	472.4	7.13	0	0	0	96.0	2.000
	488.4	6.43	0	0	0	96.0	2.000
	591.4	5.70	0	0	0	96.0	2.000
	667.7	5.18	0	0	0	96.0	2.000
	677.3	5.25	0	0	0	96.0	2.000
	849.2	4.34	0	0	0	96.0	2.000
	849.1	4.43	0	0	0	96.0	2.000
	866.0	4.43	0	0	0	96.0	2.000
	866.1	4.35	0	0	0	96.0	2.000
	964.0	3.95	0	0	0	96.0	2.000
	971.2	4.04	0	0	0	96.0	2.000
	970.0	4.14	0	0	0	96.0	2.000
	1071.6	3.69	0	0	0	96.0	2.000
	1082.5	3.57	0	0	0	96.0	2.000
	1081.3	3.54	0	0	0	96.0	2.000
	1204.5	3.35	0	0	0	96.0	2.000
	1203.4	3.24	0	0	0	96.0	2.000
	1281.9	3.13	0	0	0	96.0	2.000
	1288.0	3.01	0	0	0	96.0	2.000
	1289.2	2.93	0	0	0	96.0	2.000
	1384.6	2.91	0	0	0	96.0	2.000
	1389.5	2.80	0	0	0	96.0	2.000
	1504.3	2.43	0	0	0	96.0	2.000
	373.8	7.71	0	0	5	97.0	2.000
	387.6	7.69	0	0	5	97.0	2.000
	470.4	7.57	0	0	5	97.0	2.000
	500.6	6.57	0	0	5	97.0	2.000
	501.7	6.53	0	0	5	97.0	2.000
	574.2	6.18	0	0	5	97.0	2.000
	592.8	5.58	0	0	5	97.0	2.000
	702.2	4.93	0	0	5	97.0	2.000
	783.9	4.55	0	0	5	97.0	2.000
	1023.3	3.52	0	0	5	97.0	2.000
	1079.7	3.32	0	0	5	97.0	2.000
	1191.2	3.04	0	0	5	97.0	2.000
	1381.0	2.72	0	0	5	97.0	2.000
	446.3	7.33	0	0	5	97.0	2.000
	590.4	6.14	0	0	5	97.0	2.000
	592.7	5.87	0	0	5	97.0	2.000
	936.9	4.04	0	0	5	97.0	2.000
	1033.6	3.58	0	0	5	97.0	2.000
	1259.0	3.07	0	0	5	97.0	2.000
	1352.2	2.98	0	0	5	97.0	2.000
	369.9	7.49	0	0	12	97.0	2.000
	476.6	6.69	0	0	12	97.0	2.000
	470.9	6.61	0	0	12	97.0	2.000
	480.1	6.56	0	0	12	97.0	2.000
	615.8	5.64	0	0	12	97.0	2.000
	615.8	5.54	0	0	12	97.0	2.000
	612.4	5.46	0	0	12	97.0	2.000
	636.8	5.11	0	0	12	97.0	2.000
	636.8	4.89	0	0	12	97.0	2.000
	671.5	4.93	0	0	12	97.0	2.000
	682.0	4.91	0	0	12	97.0	2.000
	677.4	4.79	0	0	12	97.0	2.000
	678.5	4.71	0	0	12	97.0	2.000
	796.7	4.21	0	0	12	97.0	2.000
	793.3	4.08	0	0	12	97.0	2.000
	803.7	4.03	0	0	12	97.0	2.000
	867.4	3.73	0	0	12	97.0	2.000
	884.8	3.71	0	0	12	97.0	2.000
	967.0	3.53	0	0	12	97.0	2.000
	983.2	3.44	0	0	12	97.0	2.000
	971.7	3.27	0	0	12	97.0	2.000
	1086.3	3.09	0	0	12	97.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1096.7	3.11	0	0	12	97.0	2.000
	1172.0	2.91	0	0	12	97.0	2.000
	1174.3	3.00	0	0	12	97.0	2.000
	1182.4	2.90	0	0	12	97.0	2.000
	1273.9	2.74	0	0	12	97.0	2.000
	1275.0	2.81	0	0	12	97.0	2.000
	1280.8	2.74	0	0	12	97.0	2.000
	1359.6	2.55	0	0	12	97.0	2.000
	1408.2	2.46	0	0	12	97.0	2.000
	1410.5	2.54	0	0	12	97.0	2.000
	1420.9	2.45	0	0	12	97.0	2.000
	1476.6	2.25	0	0	12	97.0	2.000
	1478.8	2.42	0	0	12	97.0	2.000
	416.3	7.28	0	0	12	97.0	2.000
	387.2	7.76	0	0	12	97.0	2.000
	425.5	7.44	0	0	12	97.0	2.000
	418.6	7.37	0	0	12	97.0	2.000
	389.7	7.27	0	0	12	97.0	2.000
	576.3	6.16	0	0	12	97.0	2.000
	571.7	6.07	0	0	12	97.0	2.000
	580.9	6.04	0	0	12	97.0	2.000
	581.0	5.78	0	0	12	97.0	2.000
	679.6	5.03	0	0	12	97.0	2.000
	668.1	4.84	0	0	12	97.0	2.000
	767.7	4.40	0	0	12	97.0	2.000
	775.8	4.35	0	0	12	97.0	2.000
	767.8	4.26	0	0	12	97.0	2.000
	804.8	4.12	0	0	12	97.0	2.000
	875.5	3.88	0	0	12	97.0	2.000
	880.1	3.81	0	0	12	97.0	2.000
	877.9	3.73	0	0	12	97.0	2.000
	869.8	3.64	0	0	12	97.0	2.000
	974.0	3.51	0	0	12	97.0	2.000
	971.7	3.40	0	0	12	97.0	2.000
	1348.0	2.58	0	0	12	97.0	2.000
	1358.4	2.63	0	0	12	97.0	2.000
	419.3	6.44	0	0	20	98.0	2.000
	475.7	6.29	0	0	20	98.0	2.000
	546.0	5.80	0	0	20	98.0	2.000
	601.1	5.50	0	0	20	98.0	2.000
	679.7	5.21	0	0	20	98.0	2.000
	680.8	4.91	0	0	20	98.0	2.000
	856.6	3.84	0	0	20	98.0	2.000
	860.0	3.71	0	0	20	98.0	2.000
	971.5	3.23	0	0	20	98.0	2.000
	1090.3	3.07	0	0	20	98.0	2.000
	1089.0	2.92	0	0	20	98.0	2.000
	1265.3	2.66	0	0	20	98.0	2.000
	1387.6	2.63	0	0	20	98.0	2.000
	1384.0	2.50	0	0	20	98.0	2.000
	1480.5	2.47	0	0	20	98.0	2.000
	489.9	6.42	0	0	20	98.0	2.000
	564.9	5.90	0	0	20	98.0	2.000
	661.0	5.38	0	0	20	98.0	2.000
	750.1	4.84	0	0	20	98.0	2.000
	751.2	4.70	0	0	20	98.0	2.000
	943.5	3.64	0	0	20	98.0	2.000
	1069.1	3.12	0	0	20	98.0	2.000
	1069.2	3.23	0	0	20	98.0	2.000
	1139.6	3.00	0	0	20	98.0	2.000
	1297.1	2.78	0	0	20	98.0	2.000
	1298.3	2.68	0	0	20	98.0	2.000
	1368.8	2.65	0	0	20	98.0	2.000
	1368.8	2.52	0	0	20	98.0	2.000
	472.7	5.65	0	0	25	97.0	2.000
	474.0	6.45	0	0	25	97.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	488.1	6.23	0	0	25	97.0	2.000
	582.2	5.44	0	0	25	97.0	2.000
	691.6	4.74	0	0	25	97.0	2.000
	691.6	4.64	0	0	25	97.0	2.000
	691.6	4.54	0	0	25	97.0	2.000
	783.4	4.16	0	0	25	97.0	2.000
	874.0	3.61	0	0	25	97.0	2.000
	888.1	3.72	0	0	25	97.0	2.000
	888.1	3.80	0	0	25	97.0	2.000
	982.3	3.43	0	0	25	97.0	2.000
	982.3	3.35	0	0	25	97.0	2.000
	1004.7	3.36	0	0	25	97.0	2.000
	1004.7	3.49	0	0	25	97.0	2.000
	1090.6	3.02	0	0	25	97.0	2.000
	1089.4	3.19	0	0	25	97.0	2.000
	1206.0	2.85	0	0	25	97.0	2.000
	1291.9	2.70	0	0	25	97.0	2.000
	1412.0	2.56	0	0	25	97.0	2.000
	1483.8	2.39	0	0	25	97.0	2.000
	1476.8	2.53	0	0	25	97.0	2.000
	467.0	6.98	0	0	25	97.0	2.000
	544.6	6.18	0	0	25	97.0	2.000
	661.1	5.53	0	0	25	97.0	2.000
	659.9	5.38	0	0	25	97.0	2.000
	759.9	4.63	0	0	25	97.0	2.000
	876.4	4.12	0	0	25	97.0	2.000
	984.7	3.53	0	0	25	97.0	2.000
	1061.2	3.17	0	0	25	97.0	2.000
	1061.2	3.35	0	0	25	97.0	2.000
	1186.0	3.08	0	0	25	97.0	2.000
	1274.3	2.87	0	0	25	97.0	2.000
	1274.2	2.69	0	0	25	97.0	2.000
	1375.5	2.46	0	0	25	97.0	2.000
	1445.4	2.34	0	0	30	97.0	2.000
	1445.4	2.45	0	0	30	97.0	2.000
	1483.9	2.31	0	0	30	97.0	2.000
	1485.0	2.40	0	0	30	97.0	2.000
	1492.2	2.48	0	0	30	97.0	2.000
	419.6	6.33	0	0	30	97.0	2.000
	422.0	6.25	0	0	30	97.0	2.000
	422.1	6.09	0	0	30	97.0	2.000
	420.9	5.98	0	0	30	97.0	2.000
	615.8	5.10	0	0	30	97.0	2.000
	621.8	5.05	0	0	30	97.0	2.000
	730.1	4.41	0	0	30	97.0	2.000
	725.3	4.21	0	0	30	97.0	2.000
	724.1	4.18	0	0	30	97.0	2.000
	860.0	3.89	0	0	30	97.0	2.000
	864.9	3.48	0	0	30	97.0	2.000
	862.5	3.57	0	0	30	97.0	2.000
	976.7	3.27	0	0	30	97.0	2.000
	976.7	3.34	0	0	30	97.0	2.000
	985.1	3.35	0	0	30	97.0	2.000
	1039.1	3.28	0	0	30	97.0	2.000
	1068.0	3.08	0	0	30	97.0	2.000
	1065.6	2.99	0	0	30	97.0	2.000
	1143.8	2.81	0	0	30	97.0	2.000
	1153.4	2.87	0	0	30	97.0	2.000
	1147.3	2.97	0	0	30	97.0	2.000
	1270.0	2.61	0	0	30	97.0	2.000
	1272.4	2.65	0	0	30	97.0	2.000
	1259.1	2.82	0	0	30	97.0	2.000
	1340.9	2.50	0	0	30	97.0	2.000
	1340.9	2.55	0	0	30	97.0	2.000
	1357.7	2.58	0	0	30	97.0	2.000
	374.4	8.00	0	0	100	97.0	2.000
	431.0	7.46	0	0	100	97.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	470.0	6.81	0	0	100	97.0	2.000
	533.9	6.25	0	0	100	97.0	2.000
	564.3	5.85	0	0	100	97.0	2.000
	623.8	5.48	0	0	100	97.0	2.000
	673.2	5.32	0	0	100	97.0	2.000
	732.7	4.55	0	0	100	97.0	2.000
	786.5	4.52	0	0	100	97.0	2.000
	825.7	4.23	0	0	100	97.0	2.000
	876.5	3.98	0	0	100	97.0	2.000
	1026.2	3.52	0	0	100	97.0	2.000
	1074.1	3.37	0	0	100	97.0	2.000
	1126.4	3.16	0	0	100	97.0	2.000
	1170.0	2.86	0	0	100	97.0	2.000
	1225.2	2.73	0	0	100	97.0	2.000
	1249.9	2.65	0	0	100	97.0	2.000
	1273.2	2.58	0	0	100	97.0	2.000
	1319.7	2.37	0	0	100	97.0	2.000
	1444.7	2.13	0	0	100	97.0	2.000
	1689.1	2.20	0	0	100	97.0	2.000
	1789.4	1.99	0	0	100	97.0	2.000
	1888.2	1.91	0	0	100	97.0	2.000
	1905.7	1.76	0	0	100	97.0	2.000
	1918.7	1.72	0	0	100	97.0	2.000
	1928.9	1.76	0	0	100	97.0	2.000
Schmidt (1971)							
	873.1	4.05	0	0	0	98.0	2.000
	973.1	3.75	0	0	0	98.0	2.000
	1073.2	3.50	0	0	0	98.0	2.000
	1173.2	3.25	0	0	0	98.0	2.000
	1273.2	3.00	0	0	0	98.0	2.000
	1373.2	2.82	0	0	0	98.0	2.000
	1473.2	2.64	0	0	0	98.0	2.000
	1573.2	2.50	0	0	0	98.0	2.000
	1673.2	2.40	0	0	0	98.0	2.000
	1773.2	2.34	0	0	0	98.0	2.000
	1873.2	2.27	0	0	0	98.0	2.000
	1973.2	2.20	0	0	0	98.0	2.000
	2073.2	2.22	0	0	0	98.0	2.000
	2173.2	2.26	0	0	0	98.0	2.000
	2273.2	2.34	0	0	0	98.0	2.000
	2373.2	2.47	0	0	0	98.0	2.000
	2473.2	2.65	0	0	0	98.0	2.000
	2573.2	2.86	0	0	0	98.0	2.000
	2673.2	3.04	0	0	0	98.0	2.000
	2773.2	3.25	0	0	0	98.0	2.000
Laskiewicz et al. (1971)							
	1227.2	2.02	0	0	20	91.0	1.940
	1226.2	1.99	0	0	20	91.0	1.940
	1224.2	2.00	0	0	20	91.0	1.940
	1221.2	2.00	0	0	20	91.0	1.940
	1219.2	1.99	0	0	20	91.0	1.940
	1398.2	1.93	0	0	20	91.0	1.940
	1399.2	1.92	0	0	20	91.0	1.940
	1399.2	1.93	0	0	20	91.0	1.940
	1399.2	1.95	0	0	20	91.0	1.940
	1398.2	1.97	0	0	20	91.0	1.940
	1475.2	1.95	0	0	20	91.0	1.940
	1476.2	1.96	0	0	20	91.0	1.940
	1478.2	1.92	0	0	20	91.0	1.940
	1476.2	1.93	0	0	20	91.0	1.940
	1477.2	1.94	0	0	20	91.0	1.940
	1620.2	2.00	0	0	20	91.0	1.940
	1621.2	1.97	0	0	20	91.0	1.940
	1619.2	1.96	0	0	20	91.0	1.940
	1620.2	1.99	0	0	20	91.0	1.940
	1620.2	1.95	0	0	20	91.0	1.940

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1168.2	2.10	0	0	20	91.0	1.940
	1166.2	2.13	0	0	20	91.0	1.940
	1166.2	2.07	0	0	20	91.0	1.940
	1165.2	2.13	0	0	20	91.0	1.940
	1163.2	2.16	0	0	20	91.0	1.940
	1349.2	2.36	0	0	20	91.0	1.940
	1349.2	2.36	0	0	20	91.0	1.940
	1350.2	2.33	0	0	20	91.0	1.940
	1350.2	2.36	0	0	20	91.0	1.940
	1350.2	2.39	0	0	20	91.0	1.940
	1428.2	2.29	0	0	20	91.0	1.940
	1430.2	2.26	0	0	20	91.0	1.940
	1429.2	2.23	0	0	20	91.0	1.940
	1430.2	2.23	0	0	20	91.0	1.940
	1430.2	2.23	0	0	20	91.0	1.940
	1569.2	2.07	0	0	20	91.0	1.940
	1570.2	2.07	0	0	20	91.0	1.940
	1570.2	2.11	0	0	20	91.0	1.940
	1569.2	2.11	0	0	20	91.0	1.940
	1570.2	2.11	0	0	20	91.0	1.940
	1568.2	2.24	0	0	20	91.0	1.950
	1556.2	2.15	0	0	20	91.0	1.950
	1557.2	2.09	0	0	20	91.0	1.950
	1555.2	2.11	0	0	20	91.0	1.950
	1557.2	2.09	0	0	20	91.0	1.950
	1448.2	2.17	0	0	20	91.0	1.950
	1445.2	2.13	0	0	20	91.0	1.950
	1444.2	2.14	0	0	20	91.0	1.950
	1445.2	2.14	0	0	20	91.0	1.950
	1445.2	2.10	0	0	20	91.0	1.950
	1319.2	2.16	0	0	20	91.0	1.950
	1317.2	2.10	0	0	20	91.0	1.950
	1317.2	2.15	0	0	20	91.0	1.950
	1315.2	2.13	0	0	20	91.0	1.950
	1315.2	2.12	0	0	20	91.0	1.950
	1164.2	2.20	0	0	20	91.0	1.950
	1164.2	2.24	0	0	20	91.0	1.950
	1163.2	2.23	0	0	20	91.0	1.950
	1163.2	2.22	0	0	20	91.0	1.950
	1163.2	2.15	0	0	20	91.0	1.950
	1420.2	2.46	0	0	20	91.0	1.950
	1418.2	2.46	0	0	20	91.0	1.950
	1418.2	2.53	0	0	20	91.0	1.950
	1419.2	2.49	0	0	20	91.0	1.950
	1419.2	2.49	0	0	20	91.0	1.950
	1294.2	2.53	0	0	20	91.0	1.950
	1289.2	2.74	0	0	20	91.0	1.950
	1290.2	2.74	0	0	20	91.0	1.950
	1289.2	2.70	0	0	20	91.0	1.950
	1290.2	2.74	0	0	20	91.0	1.950
	1141.2	2.96	0	0	20	91.0	1.950
	1139.2	2.80	0	0	20	91.0	1.950
	1138.2	2.85	0	0	20	91.0	1.950
	1139.2	2.91	0	0	20	91.0	1.950
	1137.2	2.85	0	0	20	91.0	1.950
	1719.2	2.29	0	0	20	91.0	1.980
	1718.2	2.27	0	0	20	91.0	1.980
	1718.2	2.27	0	0	20	91.0	1.980
	1718.2	2.24	0	0	20	91.0	1.980
	1718.2	2.27	0	0	20	91.0	1.980
	1582.2	2.20	0	0	20	91.0	1.980
	1582.2	2.19	0	0	20	91.0	1.980
	1580.2	2.22	0	0	20	91.0	1.980
	1581.2	2.22	0	0	20	91.0	1.980
	1581.2	2.18	0	0	20	91.0	1.980
	1433.2	2.36	0	0	20	91.0	1.980
	1432.2	2.42	0	0	20	91.0	1.980

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1431.2	2.40	0	0	20	91.0	1.980
	1431.2	2.39	0	0	20	91.0	1.980
	1430.2	2.42	0	0	20	91.0	1.980
	1300.2	2.59	0	0	20	91.0	1.980
	1299.2	2.59	0	0	20	91.0	1.980
	1300.2	2.61	0	0	20	91.0	1.980
	1300.2	2.59	0	0	20	91.0	1.980
	1298.2	2.59	0	0	20	91.0	1.980
	1148.2	2.60	0	0	20	91.0	1.980
	1146.2	2.67	0	0	20	91.0	1.980
	1145.2	2.66	0	0	20	91.0	1.980
	1145.2	2.67	0	0	20	91.0	1.980
	1145.2	2.67	0	0	20	91.0	1.980
	1713.2	2.10	0	0	20	91.0	1.980
	1713.2	2.10	0	0	20	91.0	1.980
	1712.2	2.08	0	0	20	91.0	1.980
	1712.2	2.10	0	0	20	91.0	1.980
	1712.2	2.08	0	0	20	91.0	1.980
	1574.2	2.03	0	0	20	91.0	1.980
	1576.2	2.01	0	0	20	91.0	1.980
	1574.2	2.05	0	0	20	91.0	1.980
	1573.2	2.03	0	0	20	91.0	1.980
	1431.2	2.16	0	0	20	91.0	1.980
	1431.2	2.18	0	0	20	91.0	1.980
	1431.2	2.16	0	0	20	91.0	1.980
	1430.2	2.16	0	0	20	91.0	1.980
	1431.2	2.18	0	0	20	91.0	1.980
	1303.2	2.41	0	0	20	91.0	1.980
	1302.2	2.48	0	0	20	91.0	1.980
	1303.2	2.48	0	0	20	91.0	1.980
	1302.2	2.45	0	0	20	91.0	1.980
	1302.2	2.48	0	0	20	91.0	1.980
	1149.2	2.42	0	0	20	91.0	1.980
	1147.2	2.34	0	0	20	91.0	1.980
	1149.2	2.51	0	0	20	91.0	1.980
	1149.2	2.46	0	0	20	91.0	1.980
	1149.2	2.51	0	0	20	91.0	1.980
	1591.2	2.39	0	0	20	91.0	2.000
	1593.2	2.30	0	0	20	91.0	2.000
	1592.2	2.30	0	0	20	91.0	2.000
	1591.2	2.30	0	0	20	91.0	2.000
	1592.2	2.31	0	0	20	91.0	2.000
	1448.2	2.23	0	0	20	91.0	2.000
	1447.2	2.25	0	0	20	91.0	2.000
	1446.2	2.27	0	0	20	91.0	2.000
	1446.2	2.26	0	0	20	91.0	2.000
	1446.2	2.31	0	0	20	91.0	2.000
	1317.2	2.42	0	0	20	91.0	2.000
	1317.2	2.42	0	0	20	91.0	2.000
	1318.2	2.41	0	0	20	91.0	2.000
	1318.2	2.40	0	0	20	91.0	2.000
	1319.2	2.39	0	0	20	91.0	2.000
	1563.2	2.29	0	0	20	91.0	2.000
	1564.2	2.29	0	0	20	91.0	2.000
	1563.2	2.29	0	0	20	91.0	2.000
	1562.2	2.24	0	0	20	91.0	2.000
	1564.2	2.26	0	0	20	91.0	2.000
	1421.2	2.49	0	0	20	91.0	2.000
	1420.2	2.60	0	0	20	91.0	2.000
	1420.2	2.64	0	0	20	91.0	2.000
	1420.2	2.56	0	0	20	91.0	2.000
	1419.2	2.60	0	0	20	91.0	2.000
	1291.2	2.84	0	0	20	91.0	2.000
	1292.2	2.94	0	0	20	91.0	2.000
	1293.2	3.00	0	0	20	91.0	2.000
	1292.2	2.84	0	0	20	91.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1292.2	2.94	0	0	20	91.0	2.000
	1153.2	1.99	0	0	20	91.0	1.950
	1158.2	1.93	0	0	20	91.0	1.950
	1157.2	1.96	0	0	20	91.0	1.950
	1157.2	1.99	0	0	20	91.0	1.950
	1153.2	1.96	0	0	20	91.0	1.950
	1392.2	2.00	0	0	20	91.0	1.950
	1395.2	1.95	0	0	20	91.0	1.950
	1390.2	1.97	0	0	20	91.0	1.950
	1391.2	1.98	0	0	20	91.0	1.950
	1392.2	2.01	0	0	20	91.0	1.950
	1513.2	2.05	0	0	20	91.0	1.950
	1515.2	1.93	0	0	20	91.0	1.950
	1514.2	1.93	0	0	20	91.0	1.950
	1514.2	1.97	0	0	20	91.0	1.950
	1513.2	1.96	0	0	20	91.0	1.950
	1419.2	2.17	0	0	20	91.0	1.950
	1721.2	2.17	0	0	20	91.0	1.950
	1724.2	2.17	0	0	20	91.0	1.950
	1722.2	2.19	0	0	20	91.0	1.950
	1722.2	2.15	0	0	20	91.0	1.950
	1855.2	2.11	0	0	20	91.0	1.950
	1854.2	2.13	0	0	20	91.0	1.950
	1857.2	2.12	0	0	20	91.0	1.950
	1855.2	2.10	0	0	20	91.0	1.950
	1855.2	2.12	0	0	20	91.0	1.950
	2068.2	2.09	0	0	20	91.0	1.950
	2070.2	2.09	0	0	20	91.0	1.950
	2068.2	2.10	0	0	20	91.0	1.950
	2068.2	2.11	0	0	20	91.0	1.950
	2070.2	2.09	0	0	20	91.0	1.950
	2257.2	2.32	0	0	20	91.0	1.950
	2259.2	2.39	0	0	20	91.0	1.950
	2257.2	2.43	0	0	20	91.0	1.950
	2259.2	2.35	0	0	20	91.0	1.950
	2259.2	2.37	0	0	20	91.0	1.950
	2468.2	2.47	0	0	20	91.0	1.950
	2471.2	2.20	0	0	20	91.0	1.950
	2469.2	2.09	0	0	20	91.0	1.950
	2472.2	2.12	0	0	20	91.0	1.950
	2471.2	2.11	0	0	20	91.0	1.950
	2471.2	2.11	0	0	20	91.0	1.950
	1099.2	2.28	0	0	20	91.0	1.950
	1100.2	2.26	0	0	20	91.0	1.950
	362.1	2.17	0	0	20	91.0	1.950
	1100.2	2.19	0	0	20	91.0	1.950
	1100.2	2.19	0	0	20	91.0	1.950
	1338.2	1.91	0	0	20	91.0	1.950
	1338.2	1.95	0	0	20	91.0	1.950
	1336.2	1.96	0	0	20	91.0	1.950
	1338.2	1.96	0	0	20	91.0	1.950
	1338.2	1.97	0	0	20	91.0	1.950
	1460.2	1.86	0	0	20	91.0	1.950
	1461.2	1.90	0	0	20	91.0	1.950
	1458.2	1.93	0	0	20	91.0	1.950
	1456.2	1.90	0	0	20	91.0	1.950
	1460.2	1.92	0	0	20	91.0	1.950
	1675.2	2.01	0	0	20	91.0	1.950
	1670.2	2.02	0	0	20	91.0	1.950
	1672.2	1.98	0	0	20	91.0	1.950
	1670.2	2.02	0	0	20	91.0	1.950
	1672.2	2.06	0	0	20	91.0	1.950
	1802.2	2.15	0	0	20	91.0	1.950
	1804.2	2.08	0	0	20	91.0	1.950
	1805.2	2.09	0	0	20	91.0	1.950
	1805.2	2.09	0	0	20	91.0	1.950
	1804.2	2.11	0	0	20	91.0	1.950

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	2016.2	1.91	0	0	20	91.0	1.950
	2012.2	1.97	0	0	20	91.0	1.950
	2011.2	1.92	0	0	20	91.0	1.950
	2011.2	1.91	0	0	20	91.0	1.950
	2015.2	1.93	0	0	20	91.0	1.950
	2213.2	2.31	0	0	20	91.0	1.950
	2210.2	2.38	0	0	20	91.0	1.950
	2210.2	2.38	0	0	20	91.0	1.950
	2212.2	2.34	0	0	20	91.0	1.950
	2213.2	2.38	0	0	20	91.0	1.950
	2400.2	2.45	0	0	20	91.0	1.950
	2414.2	2.03	0	0	20	91.0	1.950
	2412.2	2.22	0	0	20	91.0	1.950
	2419.2	2.16	0	0	20	91.0	1.950
	2416.2	2.20	0	0	20	91.0	1.950
	2418.2	2.13	0	0	20	91.0	1.950
	1111.2	2.38	0	0	20	84.0	1.960
	1115.2	2.25	0	0	20	84.0	1.960
	1112.2	2.27	0	0	20	84.0	1.960
	1112.2	2.26	0	0	20	84.0	1.960
	1114.2	2.23	0	0	20	84.0	1.960
	1369.2	2.07	0	0	20	84.0	1.960
	1369.2	2.06	0	0	20	84.0	1.960
	1367.2	2.06	0	0	20	84.0	1.960
	1368.2	2.05	0	0	20	84.0	1.960
	1368.2	2.05	0	0	20	84.0	1.960
	1558.2	1.99	0	0	20	84.0	1.960
	1561.2	1.94	0	0	20	84.0	1.960
	1560.2	2.00	0	0	20	84.0	1.960
	1559.2	1.99	0	0	20	84.0	1.960
	1561.2	1.98	0	0	20	84.0	1.960
	1757.2	2.02	0	0	20	84.0	1.960
	1756.2	2.04	0	0	20	84.0	1.960
	1758.2	2.01	0	0	20	84.0	1.960
	1757.2	2.01	0	0	20	84.0	1.960
	1758.2	2.02	0	0	20	84.0	1.960
	1932.2	1.97	0	0	20	84.0	1.960
	1926.2	1.96	0	0	20	84.0	1.960
	1914.2	2.00	0	0	20	84.0	1.960
	1911.2	2.11	0	0	20	84.0	1.960
	1926.2	2.04	0	0	20	84.0	1.960
	2105.2	1.97	0	0	20	84.0	1.960
	2106.2	1.98	0	0	20	84.0	1.960
	2105.2	2.03	0	0	20	84.0	1.960
	2105.2	1.99	0	0	20	84.0	1.960
	2105.2	1.98	0	0	20	84.0	1.960
	2317.2	2.28	0	0	20	84.0	1.960
	2321.2	2.26	0	0	20	84.0	1.960
	2320.2	2.25	0	0	20	84.0	1.960
	2320.2	2.25	0	0	20	84.0	1.960
	2322.2	2.28	0	0	20	84.0	1.960
	2511.2	2.34	0	0	20	84.0	1.960
	2512.2	2.36	0	0	20	84.0	1.960
	2515.2	2.31	0	0	20	84.0	1.960
	2512.2	2.36	0	0	20	84.0	1.960
	2515.2	2.31	0	0	20	84.0	1.960
	1076.2	2.77	0	0	20	84.0	1.960
	1077.2	2.44	0	0	20	84.0	1.960
	1077.2	2.57	0	0	20	84.0	1.960
	1076.2	2.66	0	0	20	84.0	1.960
	1076.2	2.55	0	0	20	84.0	1.960
	1322.2	2.14	0	0	20	84.0	1.960
	1321.2	2.17	0	0	20	84.0	1.960
	1319.2	2.17	0	0	20	84.0	1.960
	1320.2	2.14	0	0	20	84.0	1.960
	1320.2	2.19	0	0	20	84.0	1.960

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1514.2	1.95	0	0	20	84.0	1.960
	1515.2	1.93	0	0	20	84.0	1.960
	1514.2	1.96	0	0	20	84.0	1.960
	1515.2	1.95	0	0	20	84.0	1.960
	1515.2	1.93	0	0	20	84.0	1.960
	1704.2	2.02	0	0	20	84.0	1.960
	1705.2	1.99	0	0	20	84.0	1.960
	1707.2	1.98	0	0	20	84.0	1.960
	1706.2	1.99	0	0	20	84.0	1.960
	1706.2	1.99	0	0	20	84.0	1.960
	1872.2	1.97	0	0	20	84.0	1.960
	1869.2	1.96	0	0	20	84.0	1.960
	1863.2	2.23	0	0	20	84.0	1.960
	1859.2	2.39	0	0	20	84.0	1.960
	1878.2	2.11	0	0	20	84.0	1.960
	2066.2	2.09	0	0	20	84.0	1.960
	2065.2	2.07	0	0	20	84.0	1.960
	2064.2	2.08	0	0	20	84.0	1.960
	2066.2	2.07	0	0	20	84.0	1.960
	2066.2	2.09	0	0	20	84.0	1.960
	2278.2	2.37	0	0	20	84.0	1.960
	2279.2	2.29	0	0	20	84.0	1.960
	2278.2	2.37	0	0	20	84.0	1.960
	2278.2	2.37	0	0	20	84.0	1.960
	2278.2	2.35	0	0	20	84.0	1.960
	2472.2	2.48	0	0	20	84.0	1.960
	2476.2	2.33	0	0	20	84.0	1.960
	2476.2	2.33	0	0	20	84.0	1.960
	2476.2	2.33	0	0	20	84.0	1.960
	2476.2	2.33	0	0	20	84.0	1.960
	1086.2	2.65	0	0	20	85.5	1.965
	1093.2	2.51	0	0	20	85.5	1.965
	1092.2	2.56	0	0	20	85.5	1.965
	1093.2	2.51	0	0	20	85.5	1.965
	1090.2	2.61	0	0	20	85.5	1.965
	1358.2	2.24	0	0	20	85.5	1.965
	1358.2	2.29	0	0	20	85.5	1.965
	1357.2	2.31	0	0	20	85.5	1.965
	1357.2	2.33	0	0	20	85.5	1.965
	1359.2	2.29	0	0	20	85.5	1.965
	1569.2	2.33	0	0	20	85.5	1.965
	1567.2	2.27	0	0	20	85.5	1.965
	1570.2	2.17	0	0	20	85.5	1.965
	1569.2	2.17	0	0	20	85.5	1.965
	1569.2	2.17	0	0	20	85.5	1.965
	1721.2	2.12	0	0	20	85.5	1.965
	1724.2	2.10	0	0	20	85.5	1.965
	1723.2	2.10	0	0	20	85.5	1.965
	1724.2	2.10	0	0	20	85.5	1.965
	1723.2	2.14	0	0	20	85.5	1.965
	1928.2	2.06	0	0	20	85.5	1.965
	1927.2	2.13	0	0	20	85.5	1.965
	1928.2	2.15	0	0	20	85.5	1.965
	1927.2	2.08	0	0	20	85.5	1.965
	1929.2	2.01	0	0	20	85.5	1.965
	2098.2	2.05	0	0	20	85.5	1.965
	2098.2	2.05	0	0	20	85.5	1.965
	2100.2	2.02	0	0	20	85.5	1.965
	2098.2	2.05	0	0	20	85.5	1.965
	2098.2	2.05	0	0	20	85.5	1.965
	2273.2	2.32	0	0	20	85.5	1.965
	2333.2	2.32	0	0	20	85.5	1.965
	2334.2	2.36	0	0	20	85.5	1.965
	2333.2	2.34	0	0	20	85.5	1.965
	2331.2	2.34	0	0	20	85.5	1.965
	2501.2	2.47	0	0	20	85.5	1.965
	2503.2	2.55	0	0	20	85.5	1.965

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	2503.2	2.55	0	0	20	85.5	1.965
	2502.2	2.52	0	0	20	85.5	1.965
	2502.2	2.52	0	0	20	85.5	1.965
	1083.2	2.56	0	0	20	86.9	1.965
	1086.2	2.54	0	0	20	86.9	1.965
	1086.2	2.53	0	0	20	86.9	1.965
	1086.2	2.62	0	0	20	86.9	1.965
	1087.2	2.44	0	0	20	86.9	1.965
	1362.2	2.12	0	0	20	86.9	1.965
	1363.2	2.14	0	0	20	86.9	1.965
	1361.2	2.11	0	0	20	86.9	1.965
	1363.2	2.14	0	0	20	86.9	1.965
	1362.2	2.12	0	0	20	86.9	1.965
	1585.2	2.00	0	0	20	86.9	1.965
	1584.2	1.98	0	0	20	86.9	1.965
	1586.2	2.02	0	0	20	86.9	1.965
	1586.2	2.02	0	0	20	86.9	1.965
	1586.2	2.01	0	0	20	86.9	1.965
	1735.2	1.95	0	0	20	86.9	1.965
	1734.2	1.94	0	0	20	86.9	1.965
	1735.2	1.97	0	0	20	86.9	1.965
	1735.2	1.95	0	0	20	86.9	1.965
	1734.2	1.95	0	0	20	86.9	1.965
	1942.2	1.97	0	0	20	86.9	1.965
	1942.2	2.01	0	0	20	86.9	1.965
	1944.2	1.96	0	0	20	86.9	1.965
	1945.2	1.98	0	0	20	86.9	1.965
	1944.2	2.00	0	0	20	86.9	1.965
	2121.2	1.99	0	0	20	86.9	1.965
	2122.2	2.00	0	0	20	86.9	1.965
	2121.2	1.97	0	0	20	86.9	1.965
	2122.2	2.00	0	0	20	86.9	1.965
	2123.2	2.01	0	0	20	86.9	1.965
	2351.2	2.22	0	0	20	86.9	1.965
	2351.2	2.22	0	0	20	86.9	1.965
	2351.2	2.22	0	0	20	86.9	1.965
	2351.2	2.21	0	0	20	86.9	1.965
	2352.2	2.23	0	0	20	86.9	1.965
	2517.2	2.21	0	0	20	86.9	1.965
	2523.2	2.10	0	0	20	86.9	1.965
	2520.2	2.07	0	0	20	86.9	1.965
	2523.2	2.12	0	0	20	86.9	1.965
	2522.2	2.17	0	0	20	86.9	1.965
	1232.2	2.72	0	0	10	91.0	1.986
	1247.2	2.48	0	0	10	91.0	1.986
	1255.2	2.35	0	0	10	91.0	1.986
	1258.2	2.34	0	0	10	91.0	1.986
	1257.2	2.36	0	0	10	91.0	1.986
	1436.2	2.10	0	0	10	91.0	1.986
	1434.2	2.12	0	0	10	91.0	1.986
	1436.2	2.09	0	0	10	91.0	1.986
	1435.2	2.13	0	0	10	91.0	1.986
	1434.2	2.12	0	0	10	91.0	1.986
	1597.2	2.24	0	0	10	91.0	1.986
	1600.2	2.17	0	0	10	91.0	1.986
	1602.2	2.15	0	0	10	91.0	1.986
	1601.2	2.17	0	0	10	91.0	1.986
	1601.2	2.16	0	0	10	91.0	1.986
	1766.2	2.24	0	0	10	91.0	1.986
	1766.2	2.23	0	0	10	91.0	1.986
	1760.2	2.26	0	0	10	91.0	1.986
	1760.2	2.31	0	0	10	91.0	1.986
	1760.2	2.22	0	0	10	91.0	1.986
	1940.2	2.33	0	0	10	91.0	1.986
	1943.2	2.33	0	0	10	91.0	1.986
	1941.2	2.32	0	0	10	91.0	1.986

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1936.2	2.14	0	0	10	91.0	1.986
	1936.2	2.14	0	0	10	91.0	1.986
	2171.2	2.51	0	0	10	91.0	1.986
	2171.2	2.55	0	0	10	91.0	1.986
	2168.2	2.56	0	0	10	91.0	1.986
	2170.2	2.48	0	0	10	91.0	1.986
	2171.2	2.53	0	0	10	91.0	1.986
	2337.2	2.35	0	0	10	91.0	1.986
	2340.2	2.35	0	0	10	91.0	1.986
	2338.2	2.36	0	0	10	91.0	1.986
	2338.2	2.36	0	0	10	91.0	1.986
	2339.2	2.38	0	0	10	91.0	1.986
	2539.2	2.36	0	0	10	91.0	1.986
	2539.2	2.50	0	0	10	91.0	1.986
	2537.2	2.55	0	0	10	91.0	1.986
	2540.2	2.51	0	0	10	91.0	1.986
	2539.2	2.48	0	0	10	91.0	1.986
	1174.2	2.40	0	0	30	93.0	1.950
	1379.2	2.35	0	0	30	93.0	1.950
	1350.2	2.37	0	0	30	93.0	1.950
	1575.2	2.17	0	0	30	93.0	1.950
	1540.2	2.51	0	0	30	93.0	1.950
	1857.2	2.01	0	0	30	93.0	1.950
	2031.2	2.07	0	0	30	93.0	1.950
	2213.2	2.09	0	0	30	93.0	1.950
	2398.2	2.42	0	0	30	93.0	1.950
	2552.2	2.37	0	0	30	93.0	1.950
	1192.2	2.40	0	0	30	93.0	1.950
	1396.2	2.13	0	0	30	93.0	1.950
	1603.2	2.09	0	0	30	93.0	1.950
	1846.2	2.05	0	0	30	93.0	1.950
	1892.2	2.05	0	0	30	93.0	1.950
	2036.2	2.05	0	0	30	93.0	1.950
	1662.2	2.05	0	0	30	93.0	1.950
	1890.2	2.03	0	0	30	93.0	1.950
	2066.2	2.07	0	0	30	93.0	1.950
	2069.2	2.12	0	0	30	93.0	1.950
	2440.2	2.31	0	0	30	93.0	1.950
	1153.2	2.25	0	0	100	97.6	1.860
	1148.2	2.05	0	0	100	97.6	1.860
	1143.2	2.01	0	0	100	97.6	1.860
	1146.2	2.06	0	0	100	97.6	1.860
	1149.2	2.08	0	0	100	97.6	1.860
	1394.2	2.07	0	0	100	97.6	1.860
	1394.2	2.04	0	0	100	97.6	1.860
	1394.2	2.08	0	0	100	97.6	1.860
	1394.2	1.99	0	0	100	97.6	1.860
	1395.2	2.03	0	0	100	97.6	1.860
	1534.2	2.05	0	0	100	97.6	1.860
	1532.2	2.10	0	0	100	97.6	1.860
	1531.2	2.08	0	0	100	97.6	1.860
	1532.2	2.07	0	0	100	97.6	1.860
	1533.2	2.10	0	0	100	97.6	1.860
	1710.2	2.06	0	0	100	97.6	1.860
	1706.2	2.11	0	0	100	97.6	1.860
	1707.2	2.07	0	0	100	97.6	1.860
	1706.2	2.09	0	0	100	97.6	1.860
	1707.2	2.08	0	0	100	97.6	1.860
	1877.2	2.36	0	0	100	97.6	1.860
	1888.2	2.29	0	0	100	97.6	1.860
	1870.2	2.31	0	0	100	97.6	1.860
	1887.2	2.25	0	0	100	97.6	1.860
	1885.2	2.14	0	0	100	97.6	1.860
	2070.2	1.91	0	0	100	97.6	1.860
	2062.2	2.25	0	0	100	97.6	1.860
	2046.2	2.44	0	0	100	97.6	1.860
	2049.2	2.24	0	0	100	97.6	1.860

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	2048.2	2.19	0	0	100	97.6	1.860
	1213.2	1.97	0	0	100	97.6	1.860
	1207.2	1.91	0	0	100	97.6	1.860
	1208.2	1.90	0	0	100	97.6	1.860
	1209.2	1.91	0	0	100	97.6	1.860
	1208.2	1.85	0	0	100	97.6	1.860
	1484.2	1.97	0	0	100	97.6	1.860
	1482.2	1.97	0	0	100	97.6	1.860
	1483.2	1.96	0	0	100	97.6	1.860
	1479.2	1.95	0	0	100	97.6	1.860
	1482.2	2.01	0	0	100	97.6	1.860
	1630.2	2.00	0	0	100	97.6	1.860
	1627.2	1.99	0	0	100	97.6	1.860
	1626.2	2.01	0	0	100	97.6	1.860
	1627.2	1.97	0	0	100	97.6	1.860
	1629.2	2.00	0	0	100	97.6	1.860
	1801.2	2.20	0	0	100	97.6	1.860
	1799.2	2.17	0	0	100	97.6	1.860
	1800.2	2.21	0	0	100	97.6	1.860
	1800.2	2.19	0	0	100	97.6	1.860
	1801.2	2.21	0	0	100	97.6	1.860
	1993.2	2.39	0	0	100	97.6	1.860
	1992.2	2.33	0	0	100	97.6	1.860
	1992.2	2.31	0	0	100	97.6	1.860
	1993.2	2.34	0	0	100	97.6	1.860
	1991.2	2.33	0	0	100	97.6	1.860
	2187.2	2.50	0	0	100	97.6	1.860
	2191.2	2.92	0	0	100	97.6	1.860
	2165.2	2.21	0	0	100	97.6	1.860
	2160.2	2.36	0	0	100	97.6	1.860
	2159.2	2.32	0	0	100	97.6	1.860
	1164.2	2.60	0	0	0	97.6	2.000
	1160.2	2.64	0	0	0	97.6	2.000
	1158.2	2.88	0	0	0	97.6	2.000
	1260.2	2.85	0	0	0	97.6	2.000
	1264.2	2.56	0	0	0	97.6	2.000
	1265.2	2.57	0	0	0	97.6	2.000
	1265.2	2.54	0	0	0	97.6	2.000
	1265.2	2.53	0	0	0	97.6	2.000
	1469.2	2.50	0	0	0	97.6	2.000
	1466.2	2.34	0	0	0	97.6	2.000
	1464.2	2.42	0	0	0	97.6	2.000
	1464.2	2.32	0	0	0	97.6	2.000
	1464.2	2.32	0	0	0	97.6	2.000
	1670.2	2.43	0	0	0	97.6	2.000
	1667.2	2.50	0	0	0	97.6	2.000
	1665.2	2.43	0	0	0	97.6	2.000
	1665.2	2.46	0	0	0	97.6	2.000
	1665.2	2.46	0	0	0	97.6	2.000
	1840.2	2.29	0	0	0	97.6	2.000
	1841.2	2.26	0	0	0	97.6	2.000
	1841.2	2.27	0	0	0	97.6	2.000
	1841.2	2.43	0	0	0	97.6	2.000
	1838.2	2.34	0	0	0	97.6	2.000
	2005.2	2.09	0	0	0	97.6	2.000
	2003.2	2.16	0	0	0	97.6	2.000
	2004.2	2.11	0	0	0	97.6	2.000
	2002.2	2.17	0	0	0	97.6	2.000
	2003.2	2.17	0	0	0	97.6	2.000
	1152.2	2.91	0	0	0	97.6	2.000
	1151.2	3.05	0	0	0	97.6	2.000
	1151.2	3.54	0	0	0	97.6	2.000
	1253.2	3.31	0	0	0	97.6	2.000
	1252.2	2.79	0	0	0	97.6	2.000
	1252.2	3.03	0	0	0	97.6	2.000
	1251.2	2.97	0	0	0	97.6	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1252.2	2.79	0	0	0	97.6	2.000
	1451.2	2.46	0	0	0	97.6	2.000
	1452.2	2.78	0	0	0	97.6	2.000
	1451.2	2.68	0	0	0	97.6	2.000
	1445.2	2.53	0	0	0	97.6	2.000
	1447.2	2.61	0	0	0	97.6	2.000
	1668.2	2.44	0	0	0	97.6	2.000
	1668.2	2.23	0	0	0	97.6	2.000
	1667.2	2.33	0	0	0	97.6	2.000
	1665.2	2.27	0	0	0	97.6	2.000
	1665.2	2.24	0	0	0	97.6	2.000
	1840.2	2.21	0	0	0	97.6	2.000
	1840.2	2.14	0	0	0	97.6	2.000
	1841.2	2.14	0	0	0	97.6	2.000
	1840.2	2.14	0	0	0	97.6	2.000
	1842.2	2.12	0	0	0	97.6	2.000
	2012.2	1.72	0	0	0	97.6	2.000
	2010.2	1.77	0	0	0	97.6	2.000
	2011.2	1.75	0	0	0	97.6	2.000
	2009.2	1.77	0	0	0	97.6	2.000
	2011.2	1.75	0	0	0	97.6	2.000
	1165.2	3.36	0	0	0	97.6	2.000
	1161.2	3.49	0	0	0	97.6	2.000
	1161.2	3.88	0	0	0	97.6	2.000
	1267.2	3.40	0	0	0	97.6	2.000
	1267.2	3.44	0	0	0	97.6	2.000
	1267.2	3.43	0	0	0	97.6	2.000
	1267.2	3.45	0	0	0	97.6	2.000
	1267.2	3.39	0	0	0	97.6	2.000
	1477.2	2.81	0	0	0	97.6	2.000
	1475.2	2.89	0	0	0	97.6	2.000
	1475.2	2.85	0	0	0	97.6	2.000
	1462.2	2.89	0	0	0	97.6	2.000
	1473.2	2.86	0	0	0	97.6	2.000
	1692.2	2.51	0	0	0	97.6	2.000
	1693.2	2.46	0	0	0	97.6	2.000
	1692.2	2.46	0	0	0	97.6	2.000
	1690.2	2.51	0	0	0	97.6	2.000
	1689.2	2.48	0	0	0	97.6	2.000
	1866.2	2.34	0	0	0	97.6	2.000
	1868.2	2.39	0	0	0	97.6	2.000
	1868.2	2.36	0	0	0	97.6	2.000
	1866.2	2.41	0	0	0	97.6	2.000
	1868.2	2.36	0	0	0	97.6	2.000
	2032.2	2.22	0	0	0	97.6	2.000
	2032.2	2.21	0	0	0	97.6	2.000
	2031.2	2.22	0	0	0	97.6	2.000
	2031.2	2.20	0	0	0	97.6	2.000
	2032.2	2.21	0	0	0	97.6	2.000
	1397.2	2.89	0	0	0	97.6	2.000
	1397.2	2.77	0	0	0	97.6	2.000
	1397.2	2.88	0	0	0	97.6	2.000
	1398.2	2.79	0	0	0	97.6	2.000
	1398.2	2.81	0	0	0	97.6	2.000
	1554.2	2.59	0	0	0	97.6	2.000
	1561.2	2.67	0	0	0	97.6	2.000
	1563.2	2.68	0	0	0	97.6	2.000
	1561.2	2.83	0	0	0	97.6	2.000
	1562.2	2.78	0	0	0	97.6	2.000
	1723.2	2.48	0	0	0	97.6	2.000
	1722.2	2.59	0	0	0	97.6	2.000
	1715.2	2.66	0	0	0	97.6	2.000
	1716.2	2.69	0	0	0	97.6	2.000
	1717.2	2.64	0	0	0	97.6	2.000
	1899.2	2.69	0	0	0	97.6	2.000
	1900.2	2.65	0	0	0	97.6	2.000
	1897.2	2.52	0	0	0	97.6	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1903.2	2.38	0	0	0	97.6	2.000
	1902.2	2.38	0	0	0	97.6	2.000
	2137.2	2.58	0	0	0	97.6	2.000
	2138.2	2.62	0	0	0	97.6	2.000
	2136.2	2.61	0	0	0	97.6	2.000
	2137.2	2.60	0	0	0	97.6	2.000
	2136.2	2.61	0	0	0	97.6	2.000
	2312.2	2.65	0	0	0	97.6	2.000
	2311.2	2.82	0	0	0	97.6	2.000
	2311.2	2.73	0	0	0	97.6	2.000
	2310.2	2.71	0	0	0	97.6	2.000
	2310.2	2.76	0	0	0	97.6	2.000
	2505.2	2.76	0	0	0	97.6	2.000
	2507.2	2.89	0	0	0	97.6	2.000
	2514.2	2.54	0	0	0	97.6	2.000
	2515.2	2.63	0	0	0	97.6	2.000
	2515.2	2.47	0	0	0	97.6	2.000
Moore and McElroy (1971)							
	80.0	4.61	0	0	0	100	2.000
	108.1	6.20	0	0	0	100	2.000
	126.6	6.70	0	0	0	100	2.000
	139.8	7.47	0	0	0	100	2.000
	166.3	7.90	0	0	0	100	2.000
	195.7	8.17	0	0	0	100	2.000
	221.5	8.40	0	0	0	100	2.000
	248.0	8.32	0	0	0	100	2.000
	275.6	8.19	0	0	0	100	2.000
	301.7	8.07	0	0	0	100	2.000
	323.9	7.84	0	0	0	100	2.000
	356.2	7.52	0	0	0	100	2.000
	338.0	7.95	0	0	0	100	2.000
	373.6	7.57	0	0	0	100	2.000
	381.6	7.44	0	0	0	100	2.000
	421.5	7.10	0	0	0	100	2.000
	85.9	5.06	0	0	0	100	2.001
	87.4	5.26	0	0	0	100	2.001
	94.6	5.61	0	0	0	100	2.001
	123.0	7.14	0	0	0	100	2.001
	142.0	7.88	0	0	0	100	2.001
	166.0	8.30	0	0	0	100	2.001
	188.8	8.48	0	0	0	100	2.001
	210.6	8.57	0	0	0	100	2.001
	220.4	8.64	0	0	0	100	2.001
	252.4	8.53	0	0	0	100	2.001
	274.5	8.39	0	0	0	100	2.001
	297.0	8.28	0	0	0	100	2.001
	312.3	7.92	0	0	0	100	2.001
	313.0	7.99	0	0	0	100	2.001
	319.2	7.94	0	0	0	100	2.001
	335.1	7.82	0	0	0	100	2.001
	367.0	7.43	0	0	0	100	2.001
	372.5	7.50	0	0	0	100	2.001
	318.8	8.14	0	0	0	100	1.996
	367.4	7.61	0	0	0	100	1.996
	379.4	7.40	0	0	0	100	1.996
	417.9	7.17	0	0	0	100	1.996
	326.1	8.07	0	0	0	100	2.006
	376.9	7.54	0	0	0	100	2.006
	395.7	7.44	0	0	0	100	2.006
Fayl and Hansen (1972)							
	773.2	4.70	0	0	0	95	2.000
	973.2	4.00	0	0	0	95	2.000
	1173.2	3.35	0	0	0	95	2.000
	1373.2	2.85	0	0	0	95	2.000
	1573.2	2.45	0	0	0	95	2.000
	1773.2	2.20	0	0	0	95	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1973.2	2.10	0	0	0	95	2.000
	2173.2	2.10	0	0	0	95	2.000
	2373.2	2.20	0	0	0	95	2.000
Weilbacher (1972)‡							
	974	3.58	0	0	0	98	2.000
	974	3.81	0	0	0	98	2.000
	1171	3.09	0	0	0	98	2.000
	1171	3.25	0	0	0	98	2.000
	1377	2.62	0	0	0	98	2.000
	1376	2.85	0	0	0	98	2.000
	1575	2.31	0	0	0	98	2.000
	1575	2.51	0	0	0	98	2.000
	1778	2.18	0	0	0	98	2.000
	1776	2.39	0	0	0	98	2.000
	1979	2.19	0	0	0	98	2.000
	1980	2.33	0	0	0	98	2.000
	2180	2.26	0	0	0	98	2.000
	2182	2.39	0	0	0	98	2.000
	2281	2.31	0	0	0	98	2.000
	2284	2.45	0	0	0	98	2.000
	2379	2.45	0	0	0	98	2.000
	2379	2.54	0	0	0	98	2.000
	2484	2.61	0	0	0	98	2.000
	2483	2.73	0	0	0	98	2.000
	2577	2.74	0	0	0	98	2.000
	2577	2.86	0	0	0	98	2.000
	2674	2.91	0	0	0	98	2.000
	2674	3.02	0	0	0	98	2.000
	2773	3.10	0	0	0	98	2.000
	2773	3.21	0	0	0	98	2.000
	2875	3.32	0	0	0	98	2.000
	2875	3.44	0	0	0	98	2.000
	3025	3.66	0	0	0	98	2.000
	3027	3.83	0	0	0	98	2.000
Giby (1972)							
	910.9	3.34	0	0	25	91.5	2.000
	1012.7	3.04	0	0	25	91.5	2.000
	1078.4	2.91	0	0	25	91.5	2.000
	1078.4	2.83	0	0	25	91.5	2.000
	1190.1	2.63	0	0	25	91.5	2.000
	1291.9	2.49	0	0	25	91.5	2.000
	1387.1	2.23	0	0	25	91.5	2.000
	1484.0	2.30	0	0	25	91.5	2.000
	1574.3	2.11	0	0	25	91.5	2.000
	1663.0	1.97	0	0	25	91.5	2.000
	1763.1	1.92	0	0	25	91.5	2.000
	889.6	2.18	0	0	25	91.5	1.960
	981.5	2.15	0	0	25	91.5	1.960
	956.9	2.27	0	0	25	91.5	1.960
	1058.7	2.00	0	0	25	91.5	1.960
	1052.1	2.06	0	0	25	91.5	1.960
	1050.5	2.09	0	0	25	91.5	1.960
	1119.5	1.97	0	0	25	91.5	1.960
	1142.4	2.02	0	0	25	91.5	1.960
	1172.0	1.94	0	0	25	91.5	1.960
	1185.1	1.97	0	0	25	91.5	1.960
	1282.0	1.85	0	0	25	91.5	1.960
	1293.5	1.87	0	0	25	91.5	1.960
	1369.0	1.82	0	0	25	91.5	1.960
	1383.8	1.80	0	0	25	91.5	1.960
	1449.5	1.76	0	0	25	91.5	1.960
	1472.5	1.90	0	0	25	91.5	1.960
	1553.0	1.74	0	0	25	91.5	1.960
	1577.6	1.67	0	0	25	91.5	1.960
	1607.1	1.69	0	0	25	91.5	1.960
	1582.5	1.85	0	0	25	91.5	1.960

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1671.2	1.74	0	0	25	91.5	1.960
	1720.4	1.60	0	0	25	91.5	1.960
	1784.5	1.59	0	0	25	91.5	1.960
	963.1	2.29	0	0	25	89.9	1.990
	935.0	2.11	0	0	25	89.9	1.990
	984.4	2.10	0	0	25	89.9	1.990
	1027.3	1.88	0	0	25	89.9	1.990
	1012.0	1.99	0	0	25	89.9	1.990
	1044.2	1.86	0	0	25	89.9	1.990
	1087.3	1.76	0	0	25	89.9	1.990
	1079.7	1.85	0	0	25	89.9	1.990
	1076.8	1.99	0	0	25	89.9	1.990
	1147.8	2.00	0	0	25	89.9	1.990
	1163.0	1.79	0	0	25	89.9	1.990
	1200.0	1.78	0	0	25	89.9	1.990
	1191.0	1.93	0	0	25	89.9	1.990
	1270.9	1.73	0	0	25	89.9	1.990
	1354.1	1.63	0	0	25	89.9	1.990
	1503.6	1.53	0	0	25	89.9	1.990
	1300.4	1.88	0	0	25	89.9	1.990
	1385.2	1.82	0	0	25	89.9	1.990
	1486.9	1.70	0	0	25	89.9	1.990
	1784.1	1.32	0	0	25	89.9	1.990
	1793.7	1.49	0	0	25	89.9	1.990
	1660.8	1.42	0	0	25	89.9	1.990
	1648.6	1.52	0	0	25	89.9	1.990
	1567.4	1.54	0	0	25	89.9	1.990
	1582.4	1.53	0	0	25	89.9	1.990
Goldsmith and Douglas (1972)							
	673	4.20	0	0	30	96	1.991
	873	3.42	0	0	30	96	1.991
	1073	2.88	0	0	30	96	1.991
	1273	2.47	0	0	30	96	1.991
	673	4.31	0	0	30	96	1.991
	673	4.67	0	0	30	96	1.991
	873	3.71	0	0	30	96	1.991
	1073	3.00	0	0	30	96	1.991
	1273	2.50	0	0	30	96	1.991
	673	4.82	0	0	30	96	1.991
	1273	2.52	0	0	30	96	1.991
	673	4.80	0	0	30	96	1.991
	873	3.76	0	0	30	96	1.991
	1073	3.06	0	0	30	96	1.991
	673	4.94	0	0	30	96	1.993
	873	3.95	0	0	30	96	1.993
	1073	3.18	0	0	30	96	1.993
	1273	2.65	0	0	30	96	1.993
	673	5.25	0	0	30	96	1.993
	1273	2.66	0	0	30	96	1.993
	673	5.36	0	0	30	96	1.993
	1273	2.68	0	0	30	96	1.993
	873	4.16	0	0	30	96	1.993
	1073	3.27	0	0	30	96	1.993
	673	4.74	0	0	22.5	96	1.995
	873	3.82	0	0	22.5	96	1.995
	1073	3.15	0	0	22.5	96	1.995
	1273	2.60	0	0	22.5	96	1.995
	673	4.90	0	0	22.5	96	1.995
	673	5.02	0	0	22.5	96	1.995
	873	3.95	0	0	22.5	96	1.995
	1073	3.23	0	0	22.5	96	1.995
	1273	2.62	0	0	22.5	96	1.995
	673	4.98	0	0	22.5	96	1.995
	673	4.90	0	0	22.5	96	1.993
	873	3.97	0	0	22.5	96	1.993
	1073	3.15	0	0	22.5	96	1.993

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1273	2.65	0	0	22.5	96	1.993
	673	5.12	0	0	22.5	96	1.993
	873	4.05	0	0	22.5	96	1.993
	1073	3.23	0	0	22.5	96	1.993
	1273	2.64	0	0	22.5	96	1.993
	873	4.05	0	0	22.5	96	1.993
	1073	3.23	0	0	22.5	96	1.993
	673	5.25	0	0	22.5	96	1.993
	873	4.10	0	0	22.5	96	1.993
	1073	3.23	0	0	22.5	96	1.993
	673	5.41	0	0	22.5	96	1.993
	873	4.12	0	0	22.5	96	1.993
	1073	3.19	0	0	22.5	96	1.993
	1273	2.56	0	0	22.5	96	1.993
	673	5.45	0	0	22.5	96	1.993
	673	5.31	0	0	22.5	96	1.993
	1273	2.56	0	0	22.5	96	1.993
	673	5.05	0	0	15.9	96	1.994
	873	4.15	0	0	15.9	96	1.994
	1073	3.29	0	0	15.9	96	1.994
	1273	2.73	0	0	15.9	96	1.994
	673	5.23	0	0	15.9	96	1.994
	673	5.07	0	0	15.9	96	1.994
	873	4.05	0	0	15.9	96	1.994
	1073	3.19	0	0	15.9	96	1.994
	1273	2.62	0	0	15.9	96	1.994
	673	5.12	0	0	15.9	96	1.994
	1273	2.57	0	0	15.9	96	1.994
	673	5.05	0	0	15.9	96	1.994
	873	4.02	0	0	15.9	96	1.994
	1073	3.14	0	0	15.9	96	1.994
	673	5.15	0	0	15.9	96	1.995
	873	4.16	0	0	15.9	96	1.995
	1073	3.38	0	0	15.9	96	1.995
	1273	2.81	0	0	15.9	96	1.995
	673	5.43	0	0	15.9	96	1.995
	673	5.61	0	0	15.9	96	1.995
	873	4.38	0	0	15.9	96	1.995
	1073	3.48	0	0	15.9	96	1.995
	1273	2.81	0	0	15.9	96	1.995
	673	5.63	0	0	15.9	96	1.995
	1273	2.79	0	0	15.9	96	1.995
Schmidt (1972)							
	1473.2	2.60	0	0	20	100	2.000
	1673.2	2.39	0	0	20	100	2.000
	1473.2	2.38	0	0	20	100	1.990
	1673.2	2.20	0	0	20	100	1.990
	1873.2	2.10	0	0	20	100	1.990
	2073.2	2.07	0	0	20	100	1.990
	1473.2	2.19	0	0	20	100	1.980
	1673.2	2.05	0	0	20	100	1.980
	1873.2	1.97	0	0	20	100	1.980
	2073.2	1.95	0	0	20	100	1.980
	1473.2	1.90	0	0	20	100	1.960
	1673.2	1.79	0	0	20	100	1.960
	1873.2	1.74	0	0	20	100	1.960
	2073.2	1.74	0	0	20	100	1.960
	1473.2	1.72	0	0	20	100	1.945
	1673.2	1.64	0	0	20	100	1.945
	1873.2	1.60	0	0	20	100	1.945
	2073.2	1.62	0	0	20	100	1.945
	1473.2	1.58	0	0	20	100	1.930
	1673.2	1.51	0	0	20	100	1.930
	1873.2	1.49	0	0	20	100	1.930
	2073.2	1.55	0	0	20	100	1.930
Berman et al. (1972)							

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	420.2	5.89	0	0	0	96.44	2.000
	641.2	6.13	0	0	0	96.44	2.000
	921.2	4.52	0	0	0	96.44	2.000
	1162.2	3.56	0	0	0	96.44	2.000
	1479.2	2.76	0	0	0	96.44	2.000
	1736.2	2.37	0	0	0	96.44	2.000
	2069.2	2.19	0	0	0	96.44	2.000
	1664.2	2.38	0	0	0	96.44	2.000
	1071.2	3.87	0	0	0	96.44	2.000
	498.2	6.31	0	0	0	96.44	2.000
	434.2	6.84	0	0	0	96.44	2.000
	559.2	5.65	0	0	0	96.44	2.000
	799.2	4.65	0	0	0	96.44	2.000
	1053.2	3.67	0	0	0	96.44	2.000
	1303.2	3.06	0	0	0	96.44	2.000
	1626.2	2.37	0	0	0	96.44	2.000
	1887.2	1.97	0	0	0	96.44	2.000
	2152.2	2.03	0	0	0	96.44	2.000
	1988.2	2.11	0	0	0	96.44	2.000
	1784.2	2.19	0	0	0	96.44	2.000
	1482.2	2.73	0	0	0	96.44	2.000
	1155.2	3.49	0	0	0	96.44	2.000
	865.2	4.36	0	0	0	96.44	2.000
	384.2	6.43	0	0	0	97.08	2.000
	518.2	5.90	0	0	0	97.08	2.000
	662.2	5.34	0	0	0	97.08	2.000
	875.2	4.26	0	0	0	97.08	2.000
	553.2	5.73	0	0	0	97.08	2.000
	1119.2	3.33	0	0	0	97.08	2.000
	1336.2	2.74	0	0	0	97.08	2.000
	1590.2	2.14	0	0	0	97.08	2.000
	1819.2	1.92	0	0	0	97.08	2.000
	2029.2	1.80	0	0	0	97.08	2.000
	1759.2	2.01	0	0	0	97.08	2.000
	1274.2	2.81	0	0	0	97.08	2.000
Ferro et al. (1972)*							
	664.0	3.64	0	0	0	95	2.000
	693.5	3.91	0	0	0	95	2.000
	711.2	3.89	0	0	0	95	2.000
	667.0	4.13	0	0	0	95	2.000
	737.7	3.66	0	0	0	95	2.000
	767.2	3.52	0	0	0	95	2.000
	776.0	3.65	0	0	0	95	2.000
	826.1	3.45	0	0	0	95	2.000
	843.8	3.49	0	0	0	95	2.000
	864.4	3.47	0	0	0	95	2.000
	893.9	3.26	0	0	0	95	2.000
	941.1	3.10	0	0	0	95	2.000
	964.6	3.35	0	0	0	95	2.000
	1023.6	3.11	0	0	0	95	2.000
	1047.2	3.07	0	0	0	95	2.000
	1064.8	3.13	0	0	0	95	2.000
	1064.8	3.22	0	0	0	95	2.000
	1070.7	3.41	0	0	0	95	2.000
	1085.5	3.51	0	0	0	95	2.000
	1106.1	2.99	0	0	0	95	2.000
	1120.8	2.89	0	0	0	95	2.000
	1170.9	2.88	0	0	0	95	2.000
	1165.0	3.12	0	0	0	95	2.000
	1224.0	2.91	0	0	0	95	2.000
	1215.1	2.42	0	0	0	95	2.000
	1268.2	3.07	0	0	0	95	2.000
	1241.7	3.22	0	0	0	95	2.000
	1206.3	3.39	0	0	0	95	2.000
	1226.9	3.49	0	0	0	95	2.000
	1244.6	3.49	0	0	0	95	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1347.7	2.91	0	0	0	95	2.000
	1365.4	3.00	0	0	0	95	2.000
	1462.7	2.75	0	0	0	95	2.000
	1442.0	2.78	0	0	0	95	2.000
	1427.3	2.88	0	0	0	95	2.000
	1462.7	2.94	0	0	0	95	2.000
	1442.0	3.21	0	0	0	95	2.000
	1501.0	2.78	0	0	0	95	2.000
	1551.1	2.60	0	0	0	95	2.000
	1559.9	2.86	0	0	0	95	2.000
	1624.8	2.59	0	0	0	95	2.000
	1648.3	2.55	0	0	0	95	2.000
	1666.0	2.79	0	0	0	95	2.000
	1621.8	2.97	0	0	0	95	2.000
	1707.3	2.66	0	0	0	95	2.000
	1769.2	2.69	0	0	0	95	2.000
	1769.2	2.79	0	0	0	95	2.000
	1810.4	3.08	0	0	0	95	2.000
	1863.5	2.72	0	0	0	95	2.000
	1904.7	2.91	0	0	0	95	2.000
	1969.5	2.79	0	0	0	95	2.000
	2022.6	2.86	0	0	0	95	2.000
	2049.1	3.13	0	0	0	95	2.000
	2025.5	3.32	0	0	0	95	2.000
	2043.2	2.86	0	0	0	95	2.000
	2066.8	2.78	0	0	0	95	2.000
	2090.4	2.73	0	0	0	95	2.000
	2143.4	2.68	0	0	0	95	2.000
	2169.9	2.81	0	0	0	95	2.000
	2175.8	3.03	0	0	0	95	2.000
	2267.2	2.88	0	0	0	95	2.000
	2276.0	2.96	0	0	0	95	2.000
	2364.4	3.00	0	0	0	95	2.000
	2393.9	3.18	0	0	0	95	2.000
	2388.0	3.32	0	0	0	95	2.000
	2461.7	3.04	0	0	0	95	2.000
	2561.9	3.19	0	0	0	95	2.000
	2538.3	2.93	0	0	0	95	2.000
	2544.2	2.70	0	0	0	95	2.000
Goldsmith and Douglas (1973)							
	670	5.88	0	0	0	98.6	2.000
	870	4.84	0	0	0	98.6	2.000
	1070	4.05	0	0	0	98.6	2.000
	1270	3.33	0	0	0	98.6	2.000
	670	5.84	0	0	0	98.6	2.000
	870	4.83	0	0	0	98.6	2.000
	1070	4.03	0	0	0	98.6	2.000
	1270	3.32	0	0	0	98.6	2.000
	670	5.90	0	0	0	98.6	2.000
	870	4.86	0	0	0	98.6	2.000
	1070	4.03	0	0	0	98.6	2.000
	1270	3.38	0	0	0	98.6	2.000
	670	5.61	0	0	0	98.2	2.000
	870	4.59	0	0	0	98.2	2.000
	1070	3.84	0	0	0	98.2	2.000
	1270	3.21	0	0	0	98.2	2.000
	670	5.73	0	0	0	97.7	2.000
	870	4.76	0	0	0	97.7	2.000
	1070	3.96	0	0	0	97.7	2.000
	1270	3.29	0	0	0	97.7	2.000
	670	5.48	0	0	0	96.1	2.000
	870	4.53	0	0	0	96.1	2.000
	1070	3.79	0	0	0	96.1	2.000
	1270	3.17	0	0	0	96.1	2.000
	670	5.26	0	0	0	95.8	2.000
	870	4.24	0	0	0	95.8	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1070	3.65	0	0	0	95.8	2.000
	1270	3.06	0	0	0	95.8	2.000
	670	5.12	0	0	0	95.2	2.000
	870	4.30	0	0	0	95.2	2.000
	1070	3.54	0	0	0	95.2	2.000
	1270	3.00	0	0	0	95.2	2.000
	670	5.36	0	0	0	94.7	2.000
	870	4.41	0	0	0	94.7	2.000
	1070	3.70	0	0	0	94.7	2.000
	1270	3.06	0	0	0	94.7	2.000
	670	4.80	0	0	0	93.2	2.000
	870	3.93	0	0	0	93.2	2.000
	1070	3.32	0	0	0	93.2	2.000
	1270	2.71	0	0	0	93.2	2.000
	670	4.87	0	0	0	93.0	2.000
	870	4.01	0	0	0	93.0	2.000
	1070	3.38	0	0	0	93.0	2.000
	1270	2.80	0	0	0	93.0	2.000
	670	4.65	0	0	0	90.6	2.000
	870	3.82	0	0	0	90.6	2.000
	1070	3.17	0	0	0	90.6	2.000
	1270	2.64	0	0	0	90.6	2.000
	670	4.43	0	0	0	90.4	2.000
	870	3.61	0	0	0	90.4	2.000
	1070	2.98	0	0	0	90.4	2.000
	1270	2.50	0	0	0	90.4	2.000
	670	4.26	0	0	0	96.4	2.010
	870	3.55	0	0	0	96.4	2.010
	1070	3.07	0	0	0	96.4	2.010
	1270	2.64	0	0	0	96.4	2.010
	670	4.37	0	0	0	95.7	2.010
	870	3.62	0	0	0	95.7	2.010
	1070	3.14	0	0	0	95.7	2.010
	1270	2.72	0	0	0	95.7	2.010
	670	4.26	0	0	0	94.4	2.010
	870	3.50	0	0	0	94.4	2.010
	1070	3.08	0	0	0	94.4	2.010
	1270	2.61	0	0	0	94.4	2.010
	670	4.37	0	0	0	94.4	2.010
	870	3.67	0	0	0	94.4	2.010
	1070	3.15	0	0	0	94.4	2.010
	1270	2.61	0	0	0	94.4	2.010
	670	3.88	0	0	0	91.0	2.010
	870	3.25	0	0	0	91.0	2.010
	1070	2.81	0	0	0	91.0	2.010
	1270	2.41	0	0	0	91.0	2.010
	670	3.92	0	0	0	91.0	2.010
	870	3.31	0	0	0	91.0	2.010
	1070	2.83	0	0	0	91.0	2.010
	1270	2.38	0	0	0	91.0	2.010
	670	4.18	0	0	0	96.3	2.020
	870	3.56	0	0	0	96.3	2.020
	1070	3.07	0	0	0	96.3	2.020
	1270	2.65	0	0	0	96.3	2.020
	670	4.13	0	0	0	96.2	2.020
	870	3.47	0	0	0	96.2	2.020
	1070	3.00	0	0	0	96.2	2.020
	1270	2.59	0	0	0	96.2	2.020
	670	4.38	0	0	0	96.0	2.020
	870	3.69	0	0	0	96.0	2.020
	1070	3.15	0	0	0	96.0	2.020
	1270	2.66	0	0	0	96.0	2.020
	670	4.10	0	0	0	93.0	2.020
	870	3.46	0	0	0	93.0	2.020
	1070	2.96	0	0	0	93.0	2.020
	1270	2.51	0	0	0	93.0	2.020
	670	4.05	0	0	0	92.7	2.020

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	870	3.40	0	0	0	92.7	2.020
	1070	2.91	0	0	0	92.7	2.020
	1270	2.46	0	0	0	92.7	2.020
	670	3.71	0	0	0	95.8	2.040
	870	2.98	0	0	0	95.8	2.040
	1070	2.60	0	0	0	95.8	2.040
	1270	2.34	0	0	0	95.8	2.040
	670	3.73	0	0	0	95.8	2.040
	870	2.83	0	0	0	95.8	2.040
	1070	2.53	0	0	0	95.8	2.040
	1270	2.29	0	0	0	95.8	2.040
	670	3.55	0	0	0	95.3	2.050
	870	2.73	0	0	0	95.3	2.050
	1070	2.43	0	0	0	95.3	2.050
	1270	2.22	0	0	0	95.3	2.050
	670	3.51	0	0	0	95.3	2.050
	870	2.71	0	0	0	95.3	2.050
	1070	2.45	0	0	0	95.3	2.050
	1270	2.22	0	0	0	95.3	2.050
	670	2.70	0	0	0	96.4	2.110
	870	2.04	0	0	0	96.4	2.110
	1070	1.97	0	0	0	96.4	2.110
	1270	1.90	0	0	0	96.4	2.110
Kamimoto et al. (1973)							
	89.4	1.36	0	0	0	99.6	2.000
	90.2	1.42	0	0	0	99.6	2.000
	100.1	2.06	0	0	0	99.6	2.000
	105.7	2.42	0	0	0	99.6	2.000
	111.1	2.83	0	0	0	99.6	2.000
	117.1	3.19	0	0	0	99.6	2.000
	123.9	3.68	0	0	0	99.6	2.000
	128.1	3.94	0	0	0	99.6	2.000
	136.0	4.49	0	0	0	99.6	2.000
	141.3	4.71	0	0	0	99.6	2.000
	148.8	5.13	0	0	0	99.6	2.000
	155.6	5.33	0	0	0	99.6	2.000
	163.1	5.73	0	0	0	99.6	2.000
	169.2	6.03	0	0	0	99.6	2.000
	175.2	6.32	0	0	0	99.6	2.000
	182.0	6.38	0	0	0	99.6	2.000
	189.6	6.70	0	0	0	99.6	2.000
	186.5	6.42	0	0	0	99.6	2.000
	194.4	6.61	0	0	0	99.6	2.000
	199.3	6.85	0	0	0	99.6	2.000
	206.5	6.82	0	0	0	99.6	2.000
	212.5	6.94	0	0	0	99.6	2.000
	218.2	7.28	0	0	0	99.6	2.000
	225.0	7.21	0	0	0	99.6	2.000
	231.4	7.37	0	0	0	99.6	2.000
	238.2	7.39	0	0	0	99.6	2.000
	246.1	7.49	0	0	0	99.6	2.000
	253.3	7.53	0	0	0	99.6	2.000
	260.8	7.47	0	0	0	99.6	2.000
	265.7	7.50	0	0	0	99.6	2.000
	272.5	7.47	0	0	0	99.6	2.000
	277.5	7.58	0	0	0	99.6	2.000
	285.7	7.47	0	0	0	99.6	2.000
	296.3	7.57	0	0	0	99.6	2.000
	295.5	7.36	0	0	0	99.6	2.000
Haley et al. (1973)†							
	296.5	6.56	0	0	0	95	2.000
	296.5	6.45	0	0	0	95	2.000
	296.5	6.35	0	0	0	95	2.000
	396.7	5.64	0	0	0	95	2.000
	389.7	5.50	0	0	0	95	2.000
	552.9	5.14	0	0	0	95	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	552.9	4.96	0	0	0	95	2.000
	550.5	4.79	0	0	0	95	2.000
	550.5	4.79	0	0	0	95	2.000
	576.2	4.96	0	0	0	95	2.000
	580.8	4.85	0	0	0	95	2.000
	660.1	4.55	0	0	0	95	2.000
	772.0	4.05	0	0	0	95	2.000
	776.6	3.97	0	0	0	95	2.000
	809.3	3.78	0	0	0	95	2.000
	804.6	3.46	0	0	0	95	2.000
	869.9	3.75	0	0	0	95	2.000
	974.8	3.80	0	0	0	95	2.000
	942.1	3.47	0	0	0	95	2.000
	939.8	3.29	0	0	0	95	2.000
	939.8	3.16	0	0	0	95	2.000
	972.5	3.32	0	0	0	95	2.000
	1023.7	3.21	0	0	0	95	2.000
	1021.4	2.99	0	0	0	95	2.000
	1065.7	3.18	0	0	0	95	2.000
	1089.0	2.65	0	0	0	95	2.000
	1103.0	2.67	0	0	0	95	2.000
	1131.0	2.66	0	0	0	95	2.000
	1140.3	2.57	0	0	0	95	2.000
	1168.3	2.88	0	0	0	95	2.000
	1175.2	2.99	0	0	0	95	2.000
	1224.2	2.50	0	0	0	95	2.000
	1242.8	2.48	0	0	0	95	2.000
	1273.2	2.73	0	0	0	95	2.000
	1382.7	2.09	0	0	0	95	2.000
	1364.1	2.45	0	0	0	95	2.000
	1399.0	2.40	0	0	0	95	2.000
	1389.7	2.53	0	0	0	95	2.000
	1455.0	2.32	0	0	0	95	2.000
	1534.2	2.10	0	0	0	95	2.000
	1534.2	2.23	0	0	0	95	2.000
	1562.2	2.03	0	0	0	95	2.000
	1569.2	2.30	0	0	0	95	2.000
	1667.1	2.46	0	0	0	95	2.000
	1662.4	2.33	0	0	0	95	2.000
	1709.0	2.04	0	0	0	95	2.000
	1716.0	2.15	0	0	0	95	2.000
	1930.5	1.96	0	0	0	95	2.000
	1944.5	2.01	0	0	0	95	2.000
	2077.3	2.00	0	0	0	95	2.000
	2086.7	2.07	0	0	0	95	2.000
Hobson et al. (1974)							
	545.9	5.49	0	0	0	94.89	2.001
	612.0	5.11	0	0	0	94.89	2.001
	645.3	5.02	0	0	0	94.89	2.001
	732.8	4.65	0	0	0	94.89	2.001
	791.9	4.31	0	0	0	94.89	2.001
	836.8	4.13	0	0	0	94.89	2.001
	881.8	3.92	0	0	0	94.89	2.001
	941.1	3.81	0	0	0	94.89	2.001
	995.7	3.63	0	0	0	94.89	2.001
	1040.8	3.53	0	0	0	94.89	2.001
	1083.4	3.38	0	0	0	94.89	2.001
	1133.2	3.25	0	0	0	94.89	2.001
	1152.2	3.23	0	0	0	94.89	2.001
	1173.6	3.17	0	0	0	94.89	2.001
	1282.8	2.95	0	0	0	94.89	2.001
	1332.6	2.85	0	0	0	94.89	2.001
	1396.8	2.77	0	0	0	94.89	2.001
	1453.8	2.68	0	0	0	94.89	2.001
	1503.6	2.55	0	0	0	94.89	2.001
	1532.2	2.58	0	0	0	94.89	2.001

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1620.1	2.40	0	0	0	94.89	2.001
	1632.0	2.43	0	0	0	94.89	2.001
	1750.9	2.29	0	0	0	94.89	2.001
	1760.5	2.38	0	0	0	94.89	2.001
	1874.8	2.35	0	0	0	94.89	2.001
	1912.7	2.25	0	0	0	94.89	2.001
	1993.6	2.22	0	0	0	94.89	2.001
	2012.8	2.28	0	0	0	94.89	2.001
	2058.0	2.24	0	0	0	94.89	2.001
	2153.1	2.20	0	0	0	94.89	2.001
	2241.3	2.22	0	0	0	94.89	2.001
	2286.5	2.19	0	0	0	94.89	2.001
	2331.7	2.21	0	0	0	94.89	2.001
	2412.8	2.30	0	0	0	94.89	2.001
	2491.4	2.34	0	0	0	94.89	2.001
Kolyadin et al. (1974)							
	332.6	6.65	0	0	0	95	2.000
	369.4	6.34	0	0	0	95	2.000
	420.4	6.14	0	0	0	95	2.000
	382.7	6.00	0	0	0	95	2.000
	452.4	5.74	0	0	0	95	2.000
	488.6	5.11	0	0	0	95	2.000
	497.6	4.95	0	0	0	95	2.000
	544.1	4.82	0	0	0	95	2.000
	576.4	4.61	0	0	0	95	2.000
	632.3	4.48	0	0	0	95	2.000
	1456.0	2.70	0	0	0	95	2.000
	1520.8	2.38	0	0	0	95	2.000
	1562.3	2.04	0	0	0	95	2.000
	1562.4	2.09	0	0	0	95	2.000
	1637.2	2.14	0	0	0	95	2.000
	1665.4	2.19	0	0	0	95	2.000
	1791.2	2.02	0	0	0	95	2.000
	1959.4	2.00	0	0	0	95	2.000
	1969.2	2.25	0	0	0	95	2.000
	1964.7	2.35	0	0	0	95	2.000
	2295.7	1.92	0	0	0	95	2.000
	2291.2	2.02	0	0	0	95	2.000
	2347.2	1.99	0	0	0	95	2.000
	2342.8	2.10	0	0	0	95	2.000
	2408.3	2.18	0	0	0	95	2.000
	2385.4	2.41	0	0	0	95	2.000
	2483.4	2.35	0	0	0	95	2.000
	2460.2	2.46	0	0	0	95	2.000
	2497.7	2.50	0	0	0	95	2.000
	2502.6	2.61	0	0	0	95	2.000
	2521.5	2.73	0	0	0	95	2.000
Gilchrist et al. (1974)							
	293.2	6.93	0	0	0	98.36	2.000
	293.2	7.42	0	0	0	98.36	2.000
Yamaguchi et al. (1980)							
	1228.8	2.89	0	0	0	93.4	2.000
	1250.1	2.89	0	0	0	93.4	2.000
	1262.6	2.85	0	0	0	93.4	2.000
	1269.7	2.94	0	0	0	93.4	2.000
	1271.5	2.76	0	0	0	93.4	2.000
	1282.2	2.78	0	0	0	93.4	2.000
	1291.1	2.77	0	0	0	93.4	2.000
	1271.7	2.33	0	0	0	93.4	2.000
	1300.1	2.47	0	0	0	93.4	2.000
	1328.6	2.43	0	0	0	93.4	2.000
	1339.4	2.23	0	0	0	93.4	2.000
	1308.8	3.01	0	0	0	93.4	2.000
	1344.5	2.61	0	0	0	93.4	2.000
	1348.0	2.70	0	0	0	93.4	2.000
	1349.8	2.77	0	0	0	93.4	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1353.3	2.88	0	0	0	93.4	2.000
	1360.4	2.81	0	0	0	93.4	2.000
	1369.3	2.89	0	0	0	93.4	2.000
	1380.0	2.88	0	0	0	93.4	2.000
	1385.3	2.93	0	0	0	93.4	2.000
	1388.9	2.82	0	0	0	93.4	2.000
	1395.9	3.13	0	0	0	93.4	2.000
	1380.0	2.73	0	0	0	93.4	2.000
	1385.4	2.59	0	0	0	93.4	2.000
	1374.8	2.57	0	0	0	93.4	2.000
	1381.9	2.46	0	0	0	93.4	2.000
	1378.4	2.37	0	0	0	93.4	2.000
	1390.9	2.42	0	0	0	93.4	2.000
	1387.3	2.37	0	0	0	93.4	2.000
	1394.4	2.50	0	0	0	93.4	2.000
	1403.2	2.59	0	0	0	93.4	2.000
	1406.8	2.48	0	0	0	93.4	2.000
	1405.1	2.41	0	0	0	93.4	2.000
	1401.6	2.21	0	0	0	93.4	2.000
	1373.2	2.16	0	0	0	93.4	2.000
	1397.8	2.78	0	0	0	93.4	2.000
	1412.0	2.80	0	0	0	93.4	2.000
	1421.1	2.53	0	0	0	93.4	2.000
	1428.3	2.33	0	0	0	93.4	2.000
	1452.8	3.09	0	0	0	93.4	2.000
	1426.3	2.71	0	0	0	93.4	2.000
	1428.0	2.80	0	0	0	93.4	2.000
	1436.9	2.80	0	0	0	93.4	2.000
	1440.5	2.75	0	0	0	93.4	2.000
	1435.2	2.66	0	0	0	93.4	2.000
	1428.2	2.57	0	0	0	93.4	2.000
	1435.3	2.46	0	0	0	93.4	2.000
	1435.3	2.53	0	0	0	93.4	2.000
	1444.2	2.46	0	0	0	93.4	2.000
	1444.2	2.58	0	0	0	93.4	2.000
	1449.6	2.33	0	0	0	93.4	2.000
	1456.7	2.29	0	0	0	93.4	2.000
	1465.7	2.20	0	0	0	93.4	2.000
	1462.1	2.13	0	0	0	93.4	2.000
	1469.3	2.15	0	0	0	93.4	2.000
	1483.4	2.31	0	0	0	93.4	2.000
	1458.4	2.53	0	0	0	93.4	2.000
	1458.4	2.62	0	0	0	93.4	2.000
	1456.5	2.73	0	0	0	93.4	2.000
	1470.8	2.58	0	0	0	93.4	2.000
	1474.4	2.53	0	0	0	93.4	2.000
	1486.9	2.51	0	0	0	93.4	2.000
	1481.4	2.72	0	0	0	93.4	2.000
	1501.0	2.79	0	0	0	93.4	2.000
	1499.3	2.63	0	0	0	93.4	2.000
	1506.3	2.76	0	0	0	93.4	2.000
	1534.8	2.85	0	0	0	93.4	2.000
	1561.5	2.68	0	0	0	93.4	2.000
	1510.2	2.16	0	0	0	93.4	2.000
	1520.9	2.02	0	0	0	93.4	2.000
	1524.5	1.96	0	0	0	93.4	2.000
	1510.0	2.52	0	0	0	93.4	2.000
	1511.8	2.45	0	0	0	93.4	2.000
	1522.5	2.41	0	0	0	93.4	2.000
	1520.6	2.58	0	0	0	93.4	2.000
	1526.0	2.52	0	0	0	93.4	2.000
	1538.5	2.49	0	0	0	93.4	2.000
	1526.1	2.34	0	0	0	93.4	2.000
	1533.2	2.25	0	0	0	93.4	2.000
	1531.5	2.18	0	0	0	93.4	2.000
	1538.5	2.34	0	0	0	93.4	2.000
	1538.6	2.25	0	0	0	93.4	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1551.0	2.27	0	0	0	93.4	2.000
	1547.4	2.39	0	0	0	93.4	2.000
	1561.6	2.41	0	0	0	93.4	2.000
	1563.5	2.32	0	0	0	93.4	2.000
	1575.9	2.36	0	0	0	93.4	2.000
	1579.4	2.43	0	0	0	93.4	2.000
	1584.7	2.46	0	0	0	93.4	2.000
	1591.9	2.43	0	0	0	93.4	2.000
	1586.5	2.57	0	0	0	93.4	2.000
	1591.8	2.63	0	0	0	93.4	2.000
	1602.5	2.48	0	0	0	93.4	2.000
	1606.0	2.57	0	0	0	93.4	2.000
	1611.3	2.70	0	0	0	93.4	2.000
	1614.8	2.79	0	0	0	93.4	2.000
	1627.3	2.78	0	0	0	93.4	2.000
	1639.8	2.75	0	0	0	93.4	2.000
	1641.4	2.96	0	0	0	93.4	2.000
	1673.5	2.85	0	0	0	93.4	2.000
	1636.3	2.50	0	0	0	93.4	2.000
	1650.6	2.40	0	0	0	93.4	2.000
	1604.3	2.39	0	0	0	93.4	2.000
	1615.0	2.37	0	0	0	93.4	2.000
	1616.9	2.23	0	0	0	93.4	2.000
	1606.2	2.16	0	0	0	93.4	2.000
	1627.5	2.33	0	0	0	93.4	2.000
	1632.9	2.24	0	0	0	93.4	2.000
	1631.1	2.15	0	0	0	93.4	2.000
	1641.8	2.15	0	0	0	93.4	2.000
	1654.2	2.19	0	0	0	93.4	2.000
	1659.7	1.99	0	0	0	93.4	2.000
	1677.5	1.97	0	0	0	93.4	2.000
	1695.2	2.00	0	0	0	93.4	2.000
	1704.2	1.90	0	0	0	93.4	2.000
	1757.6	1.68	0	0	0	93.4	2.000
	1736.2	1.82	0	0	0	93.4	2.000
	1743.3	1.96	0	0	0	93.4	2.000
	1745.0	2.11	0	0	0	93.4	2.000
	1748.5	2.20	0	0	0	93.4	2.000
	1730.8	2.02	0	0	0	93.4	2.000
	1734.3	2.15	0	0	0	93.4	2.000
	1721.9	2.13	0	0	0	93.4	2.000
	1709.4	2.11	0	0	0	93.4	2.000
	1716.5	2.22	0	0	0	93.4	2.000
	1725.4	2.25	0	0	0	93.4	2.000
	1732.5	2.25	0	0	0	93.4	2.000
	1702.2	2.33	0	0	0	93.4	2.000
	1703.9	2.51	0	0	0	93.4	2.000
	1712.8	2.45	0	0	0	93.4	2.000
	1735.9	2.49	0	0	0	93.4	2.000
	1755.6	2.34	0	0	0	93.4	2.000
	1757.3	2.40	0	0	0	93.4	2.000
	1755.5	2.56	0	0	0	93.4	2.000
	1759.0	2.70	0	0	0	93.4	2.000
	1748.2	2.81	0	0	0	93.4	2.000
	1744.7	2.88	0	0	0	93.4	2.000
	1767.7	2.97	0	0	0	93.4	2.000
	1771.5	2.63	0	0	0	93.4	2.000
	1783.9	2.54	0	0	0	93.4	2.000
	1791.1	2.43	0	0	0	93.4	2.000
	1805.3	2.43	0	0	0	93.4	2.000
	1817.7	2.54	0	0	0	93.4	2.000
	1773.5	2.02	0	0	0	93.4	2.000
	1787.7	2.14	0	0	0	93.4	2.000
	1780.5	2.27	0	0	0	93.4	2.000
	1791.4	1.80	0	0	0	93.4	2.000
	1794.9	1.89	0	0	0	93.4	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1811.0	1.78	0	0	0	93.4	2.000
	1814.5	1.91	0	0	0	93.4	2.000
	1814.4	2.01	0	0	0	93.4	2.000
	1819.8	1.87	0	0	0	93.4	2.000
	1821.6	1.96	0	0	0	93.4	2.000
	1834.0	1.89	0	0	0	93.4	2.000
	1834.0	2.03	0	0	0	93.4	2.000
	1842.9	2.01	0	0	0	93.4	2.000
	1853.6	1.94	0	0	0	93.4	2.000
	1867.8	1.90	0	0	0	93.4	2.000
	1875.0	1.85	0	0	0	93.4	2.000
	1883.9	1.79	0	0	0	93.4	2.000
	1860.8	1.65	0	0	0	93.4	2.000
	1801.9	2.12	0	0	0	93.4	2.000
	1814.4	2.10	0	0	0	93.4	2.000
	1809.0	2.19	0	0	0	93.4	2.000
	1821.4	2.25	0	0	0	93.4	2.000
	1816.1	2.32	0	0	0	93.4	2.000
	1830.3	2.37	0	0	0	93.4	2.000
	1832.1	2.26	0	0	0	93.4	2.000
	1867.5	2.55	0	0	0	93.4	2.000
	1892.5	2.40	0	0	0	93.4	2.000
	1912.1	2.42	0	0	0	93.4	2.000
	1910.4	2.29	0	0	0	93.4	2.000
	1908.6	2.13	0	0	0	93.4	2.000
	1921.1	2.08	0	0	0	93.4	2.000
	1910.5	1.99	0	0	0	93.4	2.000
	1903.4	1.90	0	0	0	93.4	2.000
	1899.8	2.06	0	0	0	93.4	2.000
	1883.8	2.04	0	0	0	93.4	2.000
	1890.9	1.99	0	0	0	93.4	2.000
	1894.4	2.12	0	0	0	93.4	2.000
	1928.4	1.82	0	0	0	93.4	2.000
	2405.0	1.95	0	0	0	93.4	2.000
	2406.8	2.04	0	0	0	93.4	2.000
	2410.3	2.13	0	0	0	93.4	2.000
	2394.3	2.17	0	0	0	93.4	2.000
	2385.2	2.56	0	0	0	93.4	2.000
	2356.8	2.40	0	0	0	93.4	2.000
	2342.5	2.55	0	0	0	93.4	2.000
	2330.1	2.53	0	0	0	93.4	2.000
	2315.8	2.52	0	0	0	93.4	2.000
	2300.0	2.17	0	0	0	93.4	2.000
	2269.8	2.00	0	0	0	93.4	2.000
	2262.6	2.18	0	0	0	93.4	2.000
	2264.3	2.32	0	0	0	93.4	2.000
	2275.1	2.23	0	0	0	93.4	2.000
	2282.2	2.21	0	0	0	93.4	2.000
	2230.7	1.96	0	0	0	93.4	2.000
	2198.6	2.20	0	0	0	93.4	2.000
	2211.0	2.25	0	0	0	93.4	2.000
	2216.3	2.40	0	0	0	93.4	2.000
	2241.1	2.49	0	0	0	93.4	2.000
	2209.1	2.58	0	0	0	93.4	2.000
	2187.8	2.51	0	0	0	93.4	2.000
	2173.5	2.51	0	0	0	93.4	2.000
	2152.1	2.62	0	0	0	93.4	2.000
	2173.7	2.08	0	0	0	93.4	2.000
	2120.2	2.46	0	0	0	93.4	2.000
	2100.7	2.35	0	0	0	93.4	2.000
	2077.5	2.39	0	0	0	93.4	2.000
	2066.9	2.25	0	0	0	93.4	2.000
	2058.0	2.34	0	0	0	93.4	2.000
	2063.2	2.55	0	0	0	93.4	2.000
	2041.9	2.46	0	0	0	93.4	2.000
	2027.7	2.34	0	0	0	93.4	2.000
	2016.9	2.79	0	0	0	93.4	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1961.9	2.49	0	0	0	93.4	2.000
	1974.4	2.33	0	0	0	93.4	2.000
	1978.0	2.25	0	0	0	93.4	2.000
	1992.3	2.14	0	0	0	93.4	2.000
	1972.7	2.20	0	0	0	93.4	2.000
	1967.4	2.11	0	0	0	93.4	2.000
	1967.4	2.07	0	0	0	93.4	2.000
	1962.1	2.00	0	0	0	93.4	2.000
	1987.1	1.82	0	0	0	93.4	2.000
	1988.8	1.91	0	0	0	93.4	2.000
	1999.5	1.91	0	0	0	93.4	2.000
	2020.8	1.96	0	0	0	93.4	2.000
	2033.2	2.01	0	0	0	93.4	2.000
	2029.7	1.91	0	0	0	93.4	2.000
	2031.5	1.83	0	0	0	93.4	2.000
	2045.8	1.82	0	0	0	93.4	2.000
	2065.3	1.80	0	0	0	93.4	2.000
	2074.2	1.83	0	0	0	93.4	2.000
	2081.3	1.88	0	0	0	93.4	2.000
	2070.6	1.89	0	0	0	93.4	2.000
	2070.6	1.96	0	0	0	93.4	2.000
	2063.5	2.05	0	0	0	93.4	2.000
	2072.3	2.08	0	0	0	93.4	2.000
	2095.5	1.94	0	0	0	93.4	2.000
	2108.1	1.76	0	0	0	93.4	2.000
	2107.9	2.03	0	0	0	93.4	2.000
	2115.1	1.97	0	0	0	93.4	2.000
	2116.8	2.10	0	0	0	93.4	2.000
	2127.6	1.83	0	0	0	93.4	2.000
	2148.9	1.92	0	0	0	93.4	2.000
	2154.2	2.10	0	0	0	93.4	2.000
	2145.3	2.02	0	0	0	93.4	2.000
	2147.0	2.10	0	0	0	93.4	2.000
	2134.6	2.08	0	0	0	93.4	2.000
	2134.5	2.19	0	0	0	93.4	2.000
	2134.5	2.30	0	0	0	93.4	2.000
	2147.0	2.22	0	0	0	93.4	2.000
	1274.7	3.94	0	0	30	95	2.000
	1277.1	3.89	0	0	30	95	2.000
	1269.9	3.80	0	0	30	95	2.000
	1262.6	3.40	0	0	30	95	2.000
	1257.8	3.28	0	0	30	95	2.000
	1293.6	3.42	0	0	30	95	2.000
	1291.2	3.35	0	0	30	95	2.000
	1279.3	3.49	0	0	30	95	2.000
	1303.2	3.56	0	0	30	95	2.000
	1293.4	3.04	0	0	30	95	2.000
	1283.9	3.02	0	0	30	95	2.000
	1255.2	2.87	0	0	30	95	2.000
	1248.0	2.59	0	0	30	95	2.000
	1274.2	2.59	0	0	30	95	2.000
	1286.1	2.64	0	0	30	95	2.000
	1281.4	2.76	0	0	30	95	2.000
	1276.4	2.04	0	0	30	95	2.000
	1288.3	2.05	0	0	30	95	2.000
	1324.1	2.05	0	0	30	95	2.000
	1324.1	2.17	0	0	30	95	2.000
	1331.3	2.24	0	0	30	95	2.000
	1314.6	2.31	0	0	30	95	2.000
	1316.9	2.17	0	0	30	95	2.000
	1412.3	2.12	0	0	30	95	2.000
	1436.2	2.22	0	0	30	95	2.000
	1422.0	2.36	0	0	30	95	2.000
	1393.7	3.35	0	0	30	95	2.000
	1453.0	2.46	0	0	30	95	2.000
	1448.3	2.58	0	0	30	95	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1472.1	2.60	0	0	30	95	2.000
	1496.0	2.55	0	0	30	95	2.000
	1531.7	2.32	0	0	30	95	2.000
	1541.2	2.30	0	0	30	95	2.000
	1555.5	2.25	0	0	30	95	2.000
	1593.6	2.06	0	0	30	95	2.000
	1607.9	2.01	0	0	30	95	2.000
	1610.3	2.11	0	0	30	95	2.000
	1631.7	2.06	0	0	30	95	2.000
	1641.3	2.11	0	0	30	95	2.000
	1619.9	2.23	0	0	30	95	2.000
	1617.5	2.28	0	0	30	95	2.000
	1605.6	2.42	0	0	30	95	2.000
	1612.8	2.46	0	0	30	95	2.000
	1627.1	2.47	0	0	30	95	2.000
	1393.3	2.34	0	0	30	95	2.000
	1395.8	2.43	0	0	30	95	2.000
	1400.6	2.60	0	0	30	95	2.000
	1410.2	2.74	0	0	30	95	2.000
	1422.1	2.62	0	0	30	95	2.000
	1436.4	2.72	0	0	30	95	2.000
	1381.5	2.55	0	0	30	95	2.000
	1383.9	2.69	0	0	30	95	2.000
	1369.6	2.71	0	0	30	95	2.000
	1386.4	2.88	0	0	30	95	2.000
	1386.4	2.95	0	0	30	95	2.000
	1381.7	3.12	0	0	30	95	2.000
	1396.0	3.02	0	0	30	95	2.000
	1410.3	2.98	0	0	30	95	2.000
	1424.6	2.93	0	0	30	95	2.000
	1436.5	3.03	0	0	30	95	2.000
	1441.3	2.93	0	0	30	95	2.000
	1448.4	2.86	0	0	30	95	2.000
	1465.1	2.84	0	0	30	95	2.000
	1462.8	3.00	0	0	30	95	2.000
	1472.3	2.91	0	0	30	95	2.000
	1481.8	2.81	0	0	30	95	2.000
	1491.3	2.79	0	0	30	95	2.000
	1531.8	2.75	0	0	30	95	2.000
	1534.2	2.63	0	0	30	95	2.000
	1550.9	2.63	0	0	30	95	2.000
	1553.2	2.49	0	0	30	95	2.000
	1567.5	2.56	0	0	30	95	2.000
	1572.2	2.42	0	0	30	95	2.000
	1579.5	2.56	0	0	30	95	2.000
	1586.7	2.68	0	0	30	95	2.000
	1572.4	2.72	0	0	30	95	2.000
	1562.9	2.82	0	0	30	95	2.000
	1553.4	2.91	0	0	30	95	2.000
	1546.2	2.89	0	0	30	95	2.000
	1655.7	2.35	0	0	30	95	2.000
	1660.5	2.47	0	0	30	95	2.000
	1667.6	2.37	0	0	30	95	2.000
	1679.6	2.44	0	0	30	95	2.000
	1698.7	2.47	0	0	30	95	2.000
	1696.2	2.33	0	0	30	95	2.000
	1681.9	2.23	0	0	30	95	2.000
	1679.4	2.04	0	0	30	95	2.000
	1698.5	2.07	0	0	30	95	2.000
	1710.4	2.02	0	0	30	95	2.000
	1684.4	2.63	0	0	30	95	2.000
	1672.6	2.82	0	0	30	95	2.000
	1684.5	2.85	0	0	30	95	2.000
	1724.8	2.28	0	0	30	95	2.000
	1736.8	2.31	0	0	30	95	2.000
	1779.6	2.12	0	0	30	95	2.000
	1798.7	2.12	0	0	30	95	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1784.5	2.31	0	0	30	95	2.000
	1765.4	2.33	0	0	30	95	2.000
	1775.0	2.45	0	0	30	95	2.000
	1758.3	2.47	0	0	30	95	2.000
	1744.1	2.80	0	0	30	95	2.000
	1825.1	2.43	0	0	30	95	2.000
	1836.9	2.26	0	0	30	95	2.000
	1841.7	2.26	0	0	30	95	2.000
	1863.1	2.05	0	0	30	95	2.000
	1875.0	2.10	0	0	30	95	2.000
	1875.1	2.41	0	0	30	95	2.000
	1877.6	2.53	0	0	30	95	2.000
	1901.4	2.55	0	0	30	95	2.000
	1896.6	2.29	0	0	30	95	2.000
	1910.9	2.34	0	0	30	95	2.000
	1922.8	2.34	0	0	30	95	2.000
	1946.6	2.22	0	0	30	95	2.000
	1949.0	2.10	0	0	30	95	2.000
	1925.1	2.05	0	0	30	95	2.000
	1985.0	2.70	0	0	30	95	2.000
	1989.7	2.53	0	0	30	95	2.000
	2006.3	2.39	0	0	30	95	2.000
	2015.9	2.60	0	0	30	95	2.000
	2006.2	2.15	0	0	30	95	2.000
	2015.8	2.22	0	0	30	95	2.000
	2020.5	2.11	0	0	30	95	2.000
	2030.0	2.01	0	0	30	95	2.000
	2042.0	2.15	0	0	30	95	2.000
	2032.5	2.20	0	0	30	95	2.000
	2063.4	2.01	0	0	30	95	2.000
	2065.9	2.20	0	0	30	95	2.000
	2073.1	2.32	0	0	30	95	2.000
	2075.5	2.51	0	0	30	95	2.000
	2106.3	1.94	0	0	30	95	2.000
	2113.6	2.21	0	0	30	95	2.000
	2125.4	2.11	0	0	30	95	2.000
	2146.9	2.14	0	0	30	95	2.000
	2146.9	1.99	0	0	30	95	2.000
	2158.8	2.11	0	0	30	95	2.000
	2559.5	1.97	0	0	30	95	2.000
	2547.5	1.85	0	0	30	95	2.000
	2530.8	1.94	0	0	30	95	2.000
	2528.5	2.08	0	0	30	95	2.000
	2526.2	2.20	0	0	30	95	2.000
	2511.8	2.13	0	0	30	95	2.000
	2526.3	2.54	0	0	30	95	2.000
	2502.5	2.58	0	0	30	95	2.000
	2504.8	2.46	0	0	30	95	2.000
	2502.4	2.32	0	0	30	95	2.000
	2492.8	2.23	0	0	30	95	2.000
	2476.0	1.94	0	0	30	95	2.000
	2459.3	1.92	0	0	30	95	2.000
	2461.8	2.20	0	0	30	95	2.000
	2466.6	2.39	0	0	30	95	2.000
	2447.6	2.46	0	0	30	95	2.000
	2423.8	2.60	0	0	30	95	2.000
	2426.1	2.39	0	0	30	95	2.000
	2414.0	2.06	0	0	30	95	2.000
	2402.1	2.03	0	0	30	95	2.000
	2399.8	2.20	0	0	30	95	2.000
	2390.2	2.10	0	0	30	95	2.000
	2383.0	2.01	0	0	30	95	2.000
	2387.7	1.91	0	0	30	95	2.000
	2363.9	2.03	0	0	30	95	2.000
	2349.6	2.03	0	0	30	95	2.000
	2354.4	2.19	0	0	30	95	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	2359.3	2.31	0	0	30	95	2.000
	2318.7	2.33	0	0	30	95	2.000
	2318.7	2.17	0	0	30	95	2.000
	2309.1	2.05	0	0	30	95	2.000
	2304.3	1.98	0	0	30	95	2.000
	2290.0	2.00	0	0	30	95	2.000
	2275.6	1.98	0	0	30	95	2.000
	2266.2	2.12	0	0	30	95	2.000
	2282.9	2.14	0	0	30	95	2.000
	2273.5	2.59	0	0	30	95	2.000
	2283.1	2.62	0	0	30	95	2.000
	2297.4	2.64	0	0	30	95	2.000
	2244.8	2.31	0	0	30	95	2.000
	2247.1	2.09	0	0	30	95	2.000
	2223.2	2.05	0	0	30	95	2.000
	2208.8	1.93	0	0	30	95	2.000
	2185.0	2.04	0	0	30	95	2.000
	2187.5	2.11	0	0	30	95	2.000
	2204.2	2.28	0	0	30	95	2.000
	2206.7	2.42	0	0	30	95	2.000
	2185.2	2.45	0	0	30	95	2.000
	2173.3	2.42	0	0	30	95	2.000
	1311.6	2.51	0	0	30	95	1.980
	1363.3	2.34	0	0	30	95	1.980
	1450.8	2.16	0	0	30	95	1.980
	1472.7	2.22	0	0	30	95	1.980
	1490.7	2.32	0	0	30	95	1.980
	1492.7	2.47	0	0	30	95	1.980
	1470.8	2.44	0	0	30	95	1.980
	1456.9	2.44	0	0	30	95	1.980
	1460.9	2.51	0	0	30	95	1.980
	1462.9	2.63	0	0	30	95	1.980
	1433.0	2.53	0	0	30	95	1.980
	1433.1	2.65	0	0	30	95	1.980
	1401.2	2.67	0	0	30	95	1.980
	1411.3	2.89	0	0	30	95	1.980
	1421.2	2.87	0	0	30	95	1.980
	1435.2	2.91	0	0	30	95	1.980
	1413.4	3.14	0	0	30	95	1.980
	1401.4	3.14	0	0	30	95	1.980
	1389.5	3.16	0	0	30	95	1.980
	1379.5	3.10	0	0	30	95	1.980
	1369.6	3.26	0	0	30	95	1.980
	1347.7	3.24	0	0	30	95	1.980
	1349.6	3.08	0	0	30	95	1.980
	1351.5	2.87	0	0	30	95	1.980
	1361.6	3.02	0	0	30	95	1.980
	1500.9	2.91	0	0	30	95	1.980
	1534.5	2.42	0	0	30	95	1.980
	1534.4	2.12	0	0	30	95	1.980
	1534.3	1.95	0	0	30	95	1.980
	1552.3	1.96	0	0	30	95	1.980
	1582.1	1.87	0	0	30	95	1.980
	1578.2	2.04	0	0	30	95	1.980
	1580.2	2.22	0	0	30	95	1.980
	1564.4	2.44	0	0	30	95	1.980
	1604.1	2.14	0	0	30	95	1.980
	1641.8	1.95	0	0	30	95	1.980
	1604.2	2.34	0	0	30	95	1.980
	1616.1	2.36	0	0	30	95	1.980
	1614.2	2.51	0	0	30	95	1.980
	1602.2	2.47	0	0	30	95	1.980
	1580.4	2.61	0	0	30	95	1.980
	1600.3	2.69	0	0	30	95	1.980
	1608.3	2.73	0	0	30	95	1.980
	1610.3	2.83	0	0	30	95	1.980
	1638.1	2.57	0	0	30	95	1.980

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1644.1	2.57	0	0	30	95	1.980
	1654.0	2.49	0	0	30	95	1.980
	1638.1	2.44	0	0	30	95	1.980
	1642.0	2.32	0	0	30	95	1.980
	1659.9	2.26	0	0	30	95	1.980
	1669.8	2.22	0	0	30	95	1.980
	1687.7	2.18	0	0	30	95	1.980
	1668.0	2.69	0	0	30	95	1.980
	1699.9	2.69	0	0	30	95	1.980
	1711.8	2.55	0	0	30	95	1.980
	1709.7	2.45	0	0	30	95	1.980
	1731.6	2.34	0	0	30	95	1.980
	1741.5	2.12	0	0	30	95	1.980
	1773.2	1.93	0	0	30	95	1.980
	1777.3	2.20	0	0	30	95	1.980
	1757.5	2.44	0	0	30	95	1.980
	1761.5	2.55	0	0	30	95	1.980
	1819.1	2.04	0	0	30	95	1.980
	1827.3	2.71	0	0	30	95	1.980
	1841.0	2.24	0	0	30	95	1.980
	1846.9	2.04	0	0	30	95	1.980
	1866.8	1.93	0	0	30	95	1.980
	1868.9	2.12	0	0	30	95	1.980
	1888.7	2.00	0	0	30	95	1.980
	1890.8	2.24	0	0	30	95	1.980
	1877.0	2.53	0	0	30	95	1.980
	1918.7	2.18	0	0	30	95	1.980
	1930.6	2.10	0	0	30	95	1.980
	1908.6	2.00	0	0	30	95	1.980
	1910.6	1.87	0	0	30	95	1.980
	1922.5	1.87	0	0	30	95	1.980
	1940.4	1.85	0	0	30	95	1.980
	1944.6	2.32	0	0	30	95	1.980
	1948.6	2.40	0	0	30	95	1.980
	1982.4	2.32	0	0	30	95	1.980
	2008.3	2.32	0	0	30	95	1.980
	2022.3	2.49	0	0	30	95	1.980
	2016.3	2.26	0	0	30	95	1.980
	2006.2	2.10	0	0	30	95	1.980
	2008.2	1.95	0	0	30	95	1.980
	2018.2	2.10	0	0	30	95	1.980
	2040.1	2.06	0	0	30	95	1.980
	2052.0	2.12	0	0	30	95	1.980
	2064.0	2.28	0	0	30	95	1.980
	2067.9	2.02	0	0	30	95	1.980
	2067.8	1.81	0	0	30	95	1.980
	2103.6	1.67	0	0	30	95	1.980
	2119.6	1.79	0	0	30	95	1.980
	2129.6	1.91	0	0	30	95	1.980
	2107.7	1.98	0	0	30	95	1.980
	2119.7	2.00	0	0	30	95	1.980
	2137.6	2.12	0	0	30	95	1.980
	2108.0	2.59	0	0	30	95	1.980
	2119.9	2.53	0	0	30	95	1.980
	2117.9	2.63	0	0	30	95	1.980
	2155.6	2.30	0	0	30	95	1.980
	2171.5	2.12	0	0	30	95	1.980
	2181.5	2.20	0	0	30	95	1.980
	2193.4	2.14	0	0	30	95	1.980
	2217.3	2.12	0	0	30	95	1.980
	2229.2	2.12	0	0	30	95	1.980
	2239.2	2.22	0	0	30	95	1.980
	2285.1	2.40	0	0	30	95	1.980
	2309.0	2.42	0	0	30	95	1.980
	2310.9	2.22	0	0	30	95	1.980
	2306.8	2.06	0	0	30	95	1.980

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	2294.9	1.98	0	0	30	95	1.980
	2287.0	2.12	0	0	30	95	1.980
	2304.8	1.85	0	0	30	95	1.980
	2318.8	2.10	0	0	30	95	1.980
	2330.8	2.10	0	0	30	95	1.980
	2358.6	2.10	0	0	30	95	1.980
	2358.6	1.98	0	0	30	95	1.980
	2366.5	1.81	0	0	30	95	1.980
	2380.5	2.04	0	0	30	95	1.980
	2398.4	2.06	0	0	30	95	1.980
	2364.8	2.49	0	0	30	95	1.980
	2446.1	1.73	0	0	30	95	1.980
	2466.1	1.91	0	0	30	95	1.980
	2476.1	2.02	0	0	30	95	1.980
	2454.2	2.08	0	0	30	95	1.980
	2456.3	2.32	0	0	30	95	1.980
	2470.2	2.30	0	0	30	95	1.980
	2468.3	2.47	0	0	30	95	1.980
	2482.2	2.44	0	0	30	95	1.980
	2492.0	1.96	0	0	30	95	1.980
	2517.8	1.85	0	0	30	95	1.980
	2527.8	2.00	0	0	30	95	1.980
	2539.8	2.10	0	0	30	95	1.980
	2543.8	2.02	0	0	30	95	1.980
	2553.7	2.08	0	0	30	95	1.980
	2563.7	2.06	0	0	30	95	1.980
	2547.8	2.14	0	0	30	95	1.980
	2535.9	2.24	0	0	30	95	1.980
	2533.9	2.38	0	0	30	95	1.980
	2512.1	2.49	0	0	30	95	1.980
	2543.9	2.45	0	0	30	95	1.980
	2534.0	2.59	0	0	30	95	1.980
	2611.7	2.63	0	0	30	95	1.980
	2631.6	2.77	0	0	30	95	1.980
	2625.6	2.47	0	0	30	95	1.980
	2639.5	2.49	0	0	30	95	1.980
	2627.4	2.20	0	0	30	95	1.980
	2645.2	1.93	0	0	30	95	1.980
	1184.4	2.26	0	0	30	95	1.960
	1196.7	2.24	0	0	30	95	1.960
	1211.9	1.77	0	0	30	95	1.960
	1222.8	1.99	0	0	30	95	1.960
	1278.7	3.20	0	0	30	95	1.960
	1278.6	3.11	0	0	30	95	1.960
	1292.6	3.04	0	0	30	95	1.960
	1285.4	2.92	0	0	30	95	1.960
	1295.8	2.83	0	0	30	95	1.960
	1306.5	2.95	0	0	30	95	1.960
	1308.5	3.12	0	0	30	95	1.960
	1331.0	2.82	0	0	30	95	1.960
	1339.7	2.73	0	0	30	95	1.960
	1309.6	2.60	0	0	30	95	1.960
	1327.2	2.54	0	0	30	95	1.960
	1330.6	2.47	0	0	30	95	1.960
	1284.9	2.51	0	0	30	95	1.960
	1276.1	2.48	0	0	30	95	1.960
	1290.0	2.34	0	0	30	95	1.960
	1282.8	2.23	0	0	30	95	1.960
	1296.9	2.23	0	0	30	95	1.960
	1300.5	2.32	0	0	30	95	1.960
	1304.2	2.46	0	0	30	95	1.960
	1311.1	2.33	0	0	30	95	1.960
	1296.7	2.04	0	0	30	95	1.960
	1300.1	1.95	0	0	30	95	1.960
	1296.5	1.86	0	0	30	95	1.960
	1291.3	1.92	0	0	30	95	1.960
	1275.4	1.92	0	0	30	95	1.960

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1340.7	2.12	0	0	30	95	1.960
	1372.2	1.96	0	0	30	95	1.960
	1396.8	1.94	0	0	30	95	1.960
	1419.7	1.92	0	0	30	95	1.960
	1426.5	1.74	0	0	30	95	1.960
	1407.6	2.11	0	0	30	95	1.960
	1430.3	2.04	0	0	30	95	1.960
	1437.4	2.04	0	0	30	95	1.960
	1446.1	1.93	0	0	30	95	1.960
	1458.5	2.09	0	0	30	95	1.960
	1421.9	2.34	0	0	30	95	1.960
	1411.4	2.39	0	0	30	95	1.960
	1399.2	2.50	0	0	30	95	1.960
	1416.9	2.53	0	0	30	95	1.960
	1429.1	2.48	0	0	30	95	1.960
	1427.6	2.65	0	0	30	95	1.960
	1441.6	2.63	0	0	30	95	1.960
	1406.5	2.71	0	0	30	95	1.960
	1401.4	2.83	0	0	30	95	1.960
	1413.7	2.83	0	0	30	95	1.960
	1410.3	2.95	0	0	30	95	1.960
	1422.6	2.93	0	0	30	95	1.960
	1487.0	2.33	0	0	30	95	1.960
	1490.3	2.21	0	0	30	95	1.960
	1484.9	2.05	0	0	30	95	1.960
	1502.5	2.05	0	0	30	95	1.960
	1502.7	2.24	0	0	30	95	1.960
	1506.0	2.10	0	0	30	95	1.960
	1511.5	2.22	0	0	30	95	1.960
	1518.3	2.06	0	0	30	95	1.960
	1525.6	2.24	0	0	30	95	1.960
	1539.6	2.25	0	0	30	95	1.960
	1530.7	2.10	0	0	30	95	1.960
	1537.6	1.97	0	0	30	95	1.960
	1513.4	2.38	0	0	30	95	1.960
	1518.9	2.52	0	0	30	95	1.960
	1527.6	2.50	0	0	30	95	1.960
	1600.9	1.98	0	0	30	95	1.960
	1604.8	2.35	0	0	30	95	1.960
	1617.5	2.63	0	0	30	95	1.960
	1629.8	2.63	0	0	30	95	1.960
	1643.9	2.70	0	0	30	95	1.960
	1649.0	2.55	0	0	30	95	1.960
	1629.4	2.29	0	0	30	95	1.960
	1625.8	2.22	0	0	30	95	1.960
	1634.4	2.07	0	0	30	95	1.960
	1638.0	2.17	0	0	30	95	1.960
	1650.4	2.20	0	0	30	95	1.960
	1662.6	2.15	0	0	30	95	1.960
	1668.1	2.32	0	0	30	95	1.960
	1650.2	2.03	0	0	30	95	1.960
	1644.7	1.89	0	0	30	95	1.960
	1655.3	1.89	0	0	30	95	1.960
	1660.4	1.71	0	0	30	95	1.960
	1665.8	1.82	0	0	30	95	1.960
	1673.1	2.06	0	0	30	95	1.960
	1683.7	2.13	0	0	30	95	1.960
	1696.1	2.16	0	0	30	95	1.960
	1696.3	2.32	0	0	30	95	1.960
	1706.4	1.97	0	0	30	95	1.960
	1706.5	2.09	0	0	30	95	1.960
	1718.7	1.95	0	0	30	95	1.960
	1736.3	1.93	0	0	30	95	1.960
	1753.8	1.91	0	0	30	95	1.960
	1776.6	1.87	0	0	30	95	1.960
	1721.9	1.70	0	0	30	95	1.960

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1717.3	2.23	0	0	30	95	1.960
	1726.1	2.30	0	0	30	95	1.960
	1728.1	2.44	0	0	30	95	1.960
	1731.7	2.56	0	0	30	95	1.960
	1715.9	2.56	0	0	30	95	1.960
	1749.1	2.40	0	0	30	95	1.960
	1745.5	2.30	0	0	30	95	1.960
	1754.1	2.12	0	0	30	95	1.960
	1759.6	2.31	0	0	30	95	1.960
	1775.2	2.15	0	0	30	95	1.960
	1843.8	2.13	0	0	30	95	1.960
	1877.2	2.16	0	0	30	95	1.960
	1873.9	2.30	0	0	30	95	1.960
	1905.4	2.17	0	0	30	95	1.960
	1857.1	1.53	0	0	30	95	1.960
	1859.0	1.65	0	0	30	95	1.960
	1852.2	1.81	0	0	30	95	1.960
	1876.9	1.86	0	0	30	95	1.960
	1885.7	1.88	0	0	30	95	1.960
	1880.3	1.77	0	0	30	95	1.960
	1887.2	1.65	0	0	30	95	1.960
	1941.4	1.40	0	0	30	95	1.960
	2581.9	1.65	0	0	30	95	1.960
	2573.4	1.88	0	0	30	95	1.960
	2580.7	2.14	0	0	30	95	1.960
	2582.6	2.26	0	0	30	95	1.960
	2587.9	2.24	0	0	30	95	1.960
	2586.4	2.49	0	0	30	95	1.960
	2503.1	1.92	0	0	30	95	1.960
	2492.3	1.71	0	0	30	95	1.960
	2471.2	1.71	0	0	30	95	1.960
	2464.3	1.84	0	0	30	95	1.960
	2450.2	1.82	0	0	30	95	1.960
	2452.2	2.05	0	0	30	95	1.960
	2438.2	2.05	0	0	30	95	1.960
	2440.1	2.24	0	0	30	95	1.960
	2450.7	2.26	0	0	30	95	1.960
	2463.0	2.22	0	0	30	95	1.960
	2477.0	2.22	0	0	30	95	1.960
	2476.8	2.03	0	0	30	95	1.960
	2447.5	2.49	0	0	30	95	1.960
	2429.9	2.47	0	0	30	95	1.960
	2422.1	1.84	0	0	30	95	1.960
	2411.5	1.86	0	0	30	95	1.960
	2400.7	1.64	0	0	30	95	1.960
	2388.8	1.97	0	0	30	95	1.960
	2357.2	1.97	0	0	30	95	1.960
	2334.2	1.85	0	0	30	95	1.960
	2313.0	1.84	0	0	30	95	1.960
	2291.8	1.72	0	0	30	95	1.960
	2272.5	1.74	0	0	30	95	1.960
	2281.5	1.93	0	0	30	95	1.960
	2283.4	2.11	0	0	30	95	1.960
	2273.1	2.30	0	0	30	95	1.960
	2255.1	1.92	0	0	30	95	1.960
	2260.5	2.04	0	0	30	95	1.960
	2246.4	2.02	0	0	30	95	1.960
	2244.9	2.20	0	0	30	95	1.960
	2255.5	2.23	0	0	30	95	1.960
	2250.4	2.43	0	0	30	95	1.960
	2241.8	2.60	0	0	30	95	1.960
	2224.2	2.57	0	0	30	95	1.960
	2204.8	2.56	0	0	30	95	1.960
	2192.6	2.63	0	0	30	95	1.960
	2194.2	2.50	0	0	30	95	1.960
	2232.7	2.31	0	0	30	95	1.960
	2225.5	2.18	0	0	30	95	1.960

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	2213.0	2.05	0	0	30	95	1.960
	2199.0	2.05	0	0	30	95	1.960
	2202.6	2.15	0	0	30	95	1.960
	2179.6	2.03	0	0	30	95	1.960
	2176.3	2.21	0	0	30	95	1.960
	2158.8	2.30	0	0	30	95	1.960
	2160.4	2.16	0	0	30	95	1.960
	2165.5	2.02	0	0	30	95	1.960
	2156.6	1.96	0	0	30	95	1.960
	2149.8	2.12	0	0	30	95	1.960
	2150.0	2.32	0	0	30	95	1.960
	2161.8	1.82	0	0	30	95	1.960
	2145.8	1.74	0	0	30	95	1.960
	2133.4	1.67	0	0	30	95	1.960
	2115.8	1.65	0	0	30	95	1.960
	2101.7	1.64	0	0	30	95	1.960
	2110.7	1.81	0	0	30	95	1.960
	2114.4	1.93	0	0	30	95	1.960
	2123.2	1.95	0	0	30	95	1.960
	2118.1	2.07	0	0	30	95	1.960
	2120.0	2.20	0	0	30	95	1.960
	2130.4	2.09	0	0	30	95	1.960
	2112.9	2.15	0	0	30	95	1.960
	2098.8	2.13	0	0	30	95	1.960
	2100.7	2.27	0	0	30	95	1.960
	2056.5	2.06	0	0	30	95	1.960
	2075.8	1.97	0	0	30	95	1.960
	2086.1	1.83	0	0	30	95	1.960
	2036.7	1.63	0	0	30	95	1.960
	2026.2	1.72	0	0	30	95	1.960
	2015.8	1.82	0	0	30	95	1.960
	2031.7	1.89	0	0	30	95	1.960
	2024.8	1.98	0	0	30	95	1.960
	2026.8	2.19	0	0	30	95	1.960
	2007.4	2.18	0	0	30	95	1.960
	1981.2	2.32	0	0	30	95	1.960
	1963.6	2.30	0	0	30	95	1.960
	1951.0	2.11	0	0	30	95	1.960
	1968.6	2.11	0	0	30	95	1.960
	1982.7	2.07	0	0	30	95	1.960
	1987.7	1.86	0	0	30	95	1.960
	1996.5	1.84	0	0	30	95	1.960
	1991.0	1.72	0	0	30	95	1.960
	1999.8	1.67	0	0	30	95	1.960
	1985.7	1.65	0	0	30	95	1.960
	1964.5	1.60	0	0	30	95	1.960
	1952.2	1.60	0	0	30	95	1.960
	1936.4	1.66	0	0	30	95	1.960
	1933.1	1.78	0	0	30	95	1.960
	1948.9	1.80	0	0	30	95	1.960
	1940.2	1.89	0	0	30	95	1.960
	1963.1	1.88	0	0	30	95	1.960
	1936.9	2.03	0	0	30	95	1.960
	1924.4	1.91	0	0	30	95	1.960
	1912.0	1.82	0	0	30	95	1.960
	1193.2	1.80	0	0	30	95	1.940
	1219.2	1.80	0	0	30	95	1.940
	1214.1	1.92	0	0	30	95	1.940
	1236.7	1.93	0	0	30	95	1.940
	1257.5	1.98	0	0	30	95	1.940
	1238.6	2.10	0	0	30	95	1.940
	1235.2	2.22	0	0	30	95	1.940
	1230.1	2.36	0	0	30	95	1.940
	1214.4	2.28	0	0	30	95	1.940
	1224.7	2.17	0	0	30	95	1.940
	1202.2	2.14	0	0	30	95	1.940

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1190.0	2.07	0	0	30	95	1.940
	1200.6	2.40	0	0	30	95	1.940
	1209.4	2.48	0	0	30	95	1.940
	1206.0	2.57	0	0	30	95	1.940
	1190.4	2.64	0	0	30	95	1.940
	1197.5	2.76	0	0	30	95	1.940
	1183.7	2.90	0	0	30	95	1.940
	1196.1	3.13	0	0	30	95	1.940
	1204.6	3.00	0	0	30	95	1.940
	1209.7	2.88	0	0	30	95	1.940
	1396.0	1.67	0	0	30	95	1.940
	1382.4	1.93	0	0	30	95	1.940
	1392.8	1.91	0	0	30	95	1.940
	1408.4	1.89	0	0	30	95	1.940
	1413.7	2.03	0	0	30	95	1.940
	1418.8	1.91	0	0	30	95	1.940
	1429.2	1.93	0	0	30	95	1.940
	1444.8	1.86	0	0	30	95	1.940
	1441.2	1.75	0	0	30	95	1.940
	1462.1	1.85	0	0	30	95	1.940
	1464.1	2.15	0	0	30	95	1.940
	1450.3	2.20	0	0	30	95	1.940
	1450.4	2.34	0	0	30	95	1.940
	1434.8	2.41	0	0	30	95	1.940
	1424.3	2.25	0	0	30	95	1.940
	1415.7	2.32	0	0	30	95	1.940
	1401.8	2.34	0	0	30	95	1.940
	1407.1	2.46	0	0	30	95	1.940
	1415.9	2.54	0	0	30	95	1.940
	1422.9	2.68	0	0	30	95	1.940
	1409.2	2.82	0	0	30	95	1.940
	1386.6	2.81	0	0	30	95	1.940
	1396.9	2.63	0	0	30	95	1.940
	1485.2	2.50	0	0	30	95	1.940
	1487.1	2.66	0	0	30	95	1.940
	1504.5	2.66	0	0	30	95	1.940
	1507.8	2.53	0	0	30	95	1.940
	1495.6	2.43	0	0	30	95	1.940
	1525.3	2.64	0	0	30	95	1.940
	1512.8	2.29	0	0	30	95	1.940
	1521.3	2.12	0	0	30	95	1.940
	1531.7	2.05	0	0	30	95	1.940
	1531.6	1.90	0	0	30	95	1.940
	1497.0	2.00	0	0	30	95	1.940
	1541.8	1.67	0	0	30	95	1.940
	1560.8	1.65	0	0	30	95	1.940
	1583.4	1.65	0	0	30	95	1.940
	1590.4	1.77	0	0	30	95	1.940
	1590.5	1.87	0	0	30	95	1.940
	1616.5	1.79	0	0	30	95	1.940
	1616.6	1.91	0	0	30	95	1.940
	1616.7	2.08	0	0	30	95	1.940
	1599.4	2.15	0	0	30	95	1.940
	1583.8	2.08	0	0	30	95	1.940
	1571.5	2.00	0	0	30	95	1.940
	1564.5	1.84	0	0	30	95	1.940
	1545.7	2.17	0	0	30	95	1.940
	1556.1	2.20	0	0	30	95	1.940
	1571.8	2.29	0	0	30	95	1.940
	1590.9	2.32	0	0	30	95	1.940
	1572.0	2.53	0	0	30	95	1.940
	1558.1	2.49	0	0	30	95	1.940
	1546.0	2.50	0	0	30	95	1.940
	1535.4	2.38	0	0	30	95	1.940
	1563.5	2.68	0	0	30	95	1.940
	1758.6	1.63	0	0	30	95	1.940
	1770.7	1.58	0	0	30	95	1.940

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1779.4	1.66	0	0	30	95	1.940
	1801.8	1.44	0	0	30	95	1.940
	1764.2	2.04	0	0	30	95	1.940
	1779.8	2.06	0	0	30	95	1.940
	1793.7	2.06	0	0	30	95	1.940
	1802.3	2.01	0	0	30	95	1.940
	1814.4	2.02	0	0	30	95	1.940
	1828.3	2.02	0	0	30	95	1.940
	1831.7	1.90	0	0	30	95	1.940
	1840.5	2.02	0	0	30	95	1.940
	1852.7	2.12	0	0	30	95	1.940
	1793.9	2.33	0	0	30	95	1.940
	1804.5	2.60	0	0	30	95	1.940
	1875.5	2.39	0	0	30	95	1.940
	2055.0	1.33	0	0	30	95	1.940
	2076.0	1.56	0	0	30	95	1.940
	2079.6	1.70	0	0	30	95	1.940
	2086.7	1.89	0	0	30	95	1.940
	2107.4	1.80	0	0	30	95	1.940
	2109.3	1.97	0	0	30	95	1.940
	2106.0	2.14	0	0	30	95	1.940
	2071.0	1.82	0	0	30	95	1.940
	2055.4	1.79	0	0	30	95	1.940
	2055.2	1.63	0	0	30	95	1.940
	2039.7	1.76	0	0	30	95	1.940
	2053.8	1.93	0	0	30	95	1.940
	2059.1	2.11	0	0	30	95	1.940
	2064.5	2.28	0	0	30	95	1.940
	2047.1	2.24	0	0	30	95	1.940
	2034.9	2.22	0	0	30	95	1.940
	2019.3	2.19	0	0	30	95	1.940
	2085.5	2.47	0	0	30	95	1.940
	2149.4	2.17	0	0	30	95	1.940
	2153.0	2.33	0	0	30	95	1.940
	2166.8	2.20	0	0	30	95	1.940
	2171.9	2.14	0	0	30	95	1.940
	2171.8	2.05	0	0	30	95	1.940
	2170.0	1.93	0	0	30	95	1.940
	2183.9	1.93	0	0	30	95	1.940
	2179.0	2.32	0	0	30	95	1.940
	2218.6	1.92	0	0	30	95	1.940
	2215.3	2.10	0	0	30	95	1.940
	2234.2	1.94	0	0	30	95	1.940
	2236.1	2.09	0	0	30	95	1.940
	2326.2	2.02	0	0	30	95	1.940
	2338.0	1.64	0	0	30	95	1.940
	2348.8	2.12	0	0	30	95	1.940
	2349.0	2.25	0	0	30	95	1.940
	2357.7	2.37	0	0	30	95	1.940
	2364.7	2.34	0	0	30	95	1.940
	2361.1	2.23	0	0	30	95	1.940
	2367.9	2.10	0	0	30	95	1.940
	2383.5	2.10	0	0	30	95	1.940
	2433.8	2.04	0	0	30	95	1.940
	2397.6	2.37	0	0	30	95	1.940
	2397.8	2.59	0	0	30	95	1.940
	2423.6	2.30	0	0	30	95	1.940
	2441.0	2.40	0	0	30	95	1.940
	2456.5	2.28	0	0	30	95	1.940
	2460.1	2.43	0	0	30	95	1.940
	2477.5	2.43	0	0	30	95	1.940
	2463.1	1.83	0	0	30	95	1.940
	2485.6	1.78	0	0	30	95	1.940
	2488.9	1.54	0	0	30	95	1.940
	2551.8	2.15	0	0	30	95	1.940
	2567.5	2.14	0	0	30	95	1.940

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	2571.1	2.33	0	0	30	95	1.940
	2590.1	2.30	0	0	30	95	1.940
	2553.8	2.42	0	0	30	95	1.940
	2560.3	1.85	0	0	30	95	1.940
	2615.7	1.80	0	0	30	95	1.940
	2628.2	2.17	0	0	30	95	1.940
	2664.4	1.91	0	0	30	95	1.940
	2664.7	2.20	0	0	30	95	1.940
	2652.7	2.46	0	0	30	95	1.940
	1267.0	2.44	0	0	30	90	1.980
	1270.9	2.52	0	0	30	90	1.980
	1284.9	2.60	0	0	30	90	1.980
	1278.7	2.70	0	0	30	90	1.980
	1301.5	2.30	0	0	30	90	1.980
	1279.5	2.18	0	0	30	90	1.980
	1275.9	1.94	0	0	30	90	1.980
	1278.2	1.80	0	0	30	90	1.980
	1292.3	1.80	0	0	30	90	1.980
	1310.2	1.90	0	0	30	90	1.980
	1485.6	1.84	0	0	30	90	1.980
	1473.5	1.84	0	0	30	90	1.980
	1457.2	1.97	0	0	30	90	1.980
	1443.1	1.97	0	0	30	90	1.980
	1438.9	2.07	0	0	30	90	1.980
	1422.8	2.05	0	0	30	90	1.980
	1422.6	2.15	0	0	30	90	1.980
	1424.3	2.35	0	0	30	90	1.980
	1438.2	2.45	0	0	30	90	1.980
	1454.3	2.47	0	0	30	90	1.980
	1431.3	2.99	0	0	30	90	1.980
	1453.4	3.03	0	0	30	90	1.980
	1467.3	3.11	0	0	30	90	1.980
	1549.8	2.00	0	0	30	90	1.980
	1561.8	2.02	0	0	30	90	1.980
	1571.9	2.04	0	0	30	90	1.980
	1587.9	2.06	0	0	30	90	1.980
	1579.6	2.20	0	0	30	90	1.980
	1583.4	2.34	0	0	30	90	1.980
	1577.2	2.46	0	0	30	90	1.980
	1599.6	2.32	0	0	30	90	1.980
	1623.8	2.30	0	0	30	90	1.980
	1624.4	1.97	0	0	30	90	1.980
	1695.0	1.87	0	0	30	90	1.980
	1711.0	1.93	0	0	30	90	1.980
	1698.9	1.97	0	0	30	90	1.980
	1690.7	2.07	0	0	30	90	1.980
	1698.7	2.07	0	0	30	90	1.980
	1712.8	2.09	0	0	30	90	1.980
	1708.5	2.27	0	0	30	90	1.980
	1723.1	1.97	0	0	30	90	1.980
	1735.1	1.97	0	0	30	90	1.980
	1761.3	2.02	0	0	30	90	1.980
	1746.8	2.21	0	0	30	90	1.980
	1732.7	2.23	0	0	30	90	1.980
	1722.6	2.23	0	0	30	90	1.980
	1726.4	2.35	0	0	30	90	1.980
	1730.3	2.47	0	0	30	90	1.980
	1809.4	2.12	0	0	30	90	1.980
	1865.4	2.40	0	0	30	90	1.980
	1839.9	1.96	0	0	30	90	1.980
	1848.3	1.74	0	0	30	90	1.980
	1858.7	1.54	0	0	30	90	1.980
	1838.6	1.56	0	0	30	90	1.980
	1836.2	1.78	0	0	30	90	1.980
	1818.1	1.74	0	0	30	90	1.980
	1805.8	1.86	0	0	30	90	1.980
	1795.7	1.90	0	0	30	90	1.980

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1936.8	1.87	0	0	30	90	1.980
	1952.7	1.95	0	0	30	90	1.980
	1940.4	2.07	0	0	30	90	1.980
	1926.0	2.25	0	0	30	90	1.980
	1938.1	2.25	0	0	30	90	1.980
	1950.1	2.33	0	0	30	90	1.980
	1927.7	2.49	0	0	30	90	1.980
	1970.7	2.05	0	0	30	90	1.980
	1976.2	2.37	0	0	30	90	1.980
	1977.9	2.53	0	0	30	90	1.980
	1955.5	2.71	0	0	30	90	1.980
	2077.7	1.90	0	0	30	90	1.980
	2079.5	2.04	0	0	30	90	1.980
	2096.2	1.70	0	0	30	90	1.980
	2112.6	1.50	0	0	30	90	1.980
	2154.9	1.55	0	0	30	90	1.980
	2219.2	1.63	0	0	30	90	1.980
	2124.6	2.76	0	0	30	90	1.980
	2152.8	2.76	0	0	30	90	1.980
	2149.0	2.62	0	0	30	90	1.980
	2171.6	2.36	0	0	30	90	1.980
	2193.7	2.39	0	0	30	90	1.980
	2213.9	2.35	0	0	30	90	1.980
	2221.2	2.81	0	0	30	90	1.980
	2239.5	2.73	0	0	30	90	1.980
	2238.5	2.11	0	0	30	90	1.980
	2210.5	2.01	0	0	30	90	1.980
	2200.3	2.07	0	0	30	90	1.980
	2184.5	1.87	0	0	30	90	1.980
	2172.1	2.06	0	0	30	90	1.980
	2152.2	1.94	0	0	30	90	1.980
	2140.2	1.90	0	0	30	90	1.980
	2127.8	2.06	0	0	30	90	1.980
	2111.7	2.06	0	0	30	90	1.980
	2097.7	1.98	0	0	30	90	1.980
	2109.9	1.90	0	0	30	90	1.980
	2099.2	2.30	0	0	30	90	1.980
	2121.4	2.30	0	0	30	90	1.980
	2141.7	2.20	0	0	30	90	1.980
	2332.4	2.57	0	0	30	90	1.980
	2326.9	2.24	0	0	30	90	1.980
	2331.2	2.10	0	0	30	90	1.980
	2345.4	2.04	0	0	30	90	1.980
	2349.7	1.86	0	0	30	90	1.980
	2327.8	1.74	0	0	30	90	1.980
	2319.3	1.96	0	0	30	90	1.980
	2376.1	1.76	0	0	30	90	1.980
	2387.8	1.96	0	0	30	90	1.980
	2379.6	2.04	0	0	30	90	1.980
	2363.3	2.18	0	0	30	90	1.980
	2383.2	2.32	0	0	30	90	1.980
	2387.6	2.12	0	0	30	90	1.980
	2407.7	2.12	0	0	30	90	1.980
	2540.1	1.76	0	0	30	85	1.980
	2544.8	1.98	0	0	30	85	1.980
	2564.8	2.15	0	0	30	85	1.980
	2539.5	2.15	0	0	30	85	1.980
	2525.8	2.25	0	0	30	85	1.980
	2525.2	2.60	0	0	30	85	1.980
	2522.8	2.03	0	0	30	85	1.980
	2522.9	1.98	0	0	30	85	1.980
	2513.0	1.83	0	0	30	85	1.980
	2512.8	1.96	0	0	30	85	1.980
	2510.8	2.11	0	0	30	85	1.980
	2499.0	2.13	0	0	30	85	1.980
	2499.2	1.99	0	0	30	85	1.980

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	2501.1	1.88	0	0	30	85	1.980
	2492.1	2.21	0	0	30	85	1.980
	2493.5	2.39	0	0	30	85	1.980
	2482.3	1.99	0	0	30	85	1.980
	2477.3	1.96	0	0	30	85	1.980
	2473.8	2.04	0	0	30	85	1.980
	2473.6	2.14	0	0	30	85	1.980
	2463.9	1.92	0	0	30	85	1.980
	2471.0	1.69	0	0	30	85	1.980
	2454.3	1.60	0	0	30	85	1.980
	2441.8	1.97	0	0	30	85	1.980
	2430.0	1.95	0	0	30	85	1.980
	2435.0	2.04	0	0	30	85	1.980
	2441.4	2.22	0	0	30	85	1.980
	2429.4	2.35	0	0	30	85	1.980
	2414.4	2.20	0	0	30	85	1.980
	2421.5	2.00	0	0	30	85	1.980
	2407.9	2.05	0	0	30	85	1.980
	2401.0	2.13	0	0	30	85	1.980
	2406.4	1.93	0	0	30	85	1.980
	2401.2	2.00	0	0	30	85	1.980
	2387.6	2.06	0	0	30	85	1.980
	2389.0	2.28	0	0	30	85	1.980
	2379.3	2.01	0	0	30	85	1.980
	2362.4	1.98	0	0	30	85	1.980
	2360.6	2.09	0	0	30	85	1.980
	2365.4	2.24	0	0	30	85	1.980
	2359.5	1.69	0	0	30	85	1.980
	2381.4	1.76	0	0	30	85	1.980
	2396.8	1.63	0	0	30	85	1.980
	2290.1	1.80	0	0	30	85	1.980
	2278.2	1.89	0	0	30	85	1.980
	2269.5	2.03	0	0	30	85	1.980
	2262.5	2.17	0	0	30	85	1.980
	2252.6	2.03	0	0	30	85	1.980
	2262.9	1.93	0	0	30	85	1.980
	2276.6	1.82	0	0	30	85	1.980
	2212.3	1.91	0	0	30	85	1.980
	2215.2	2.15	0	0	30	85	1.980
	2203.3	2.21	0	0	30	85	1.980
	2159.2	2.32	0	0	30	85	1.980
	2167.8	2.21	0	0	30	85	1.980
	2168.0	2.09	0	0	30	85	1.980
	2179.8	2.11	0	0	30	85	1.980
	2179.6	2.24	0	0	30	85	1.980
	2186.8	1.96	0	0	30	85	1.980
	2161.7	1.86	0	0	30	85	1.980
	2175.4	1.76	0	0	30	85	1.980
	2156.9	1.71	0	0	30	85	1.980
	2147.3	1.39	0	0	30	85	1.980
	2143.3	1.72	0	0	30	85	1.980
	2124.7	1.74	0	0	30	85	1.980
	2132.9	1.89	0	0	30	85	1.980
	2142.8	2.02	0	0	30	85	1.980
	2132.6	2.05	0	0	30	85	1.980
	2140.9	2.15	0	0	30	85	1.980
	2085.6	1.90	0	0	30	85	1.980
	2077.2	1.90	0	0	30	85	1.980
	2077.4	1.75	0	0	30	85	1.980
	2096.0	1.77	0	0	30	85	1.980
	2099.2	1.87	0	0	30	85	1.980
	2115.4	2.27	0	0	30	85	1.980
	2103.7	2.20	0	0	30	85	1.980
	2083.5	2.13	0	0	30	85	1.980
	2076.6	2.25	0	0	30	85	1.980
	2059.7	2.25	0	0	30	85	1.980
	2049.8	2.08	0	0	30	85	1.980

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	2026.2	2.06	0	0	30	85	1.980
	2034.9	1.94	0	0	30	85	1.980
	2050.4	1.78	0	0	30	85	1.980
	2042.3	1.53	0	0	30	85	1.980
	2028.7	1.63	0	0	30	85	1.980
	2020.1	1.71	0	0	30	85	1.980
	2013.2	1.79	0	0	30	85	1.980
	2006.2	1.94	0	0	30	85	1.980
	1995.7	2.16	0	0	30	85	1.980
	1982.1	2.20	0	0	30	85	1.980
	1966.8	2.25	0	0	30	85	1.980
	1956.8	2.15	0	0	30	85	1.980
	1957.1	2.02	0	0	30	85	1.980
	1947.0	1.97	0	0	30	85	1.980
	1959.0	1.87	0	0	30	85	1.980
	1970.8	1.90	0	0	30	85	1.980
	1972.7	1.79	0	0	30	85	1.980
	1986.3	1.72	0	0	30	85	1.980
	1998.3	1.61	0	0	30	85	1.980
	2006.8	1.56	0	0	30	85	1.980
	1935.7	1.65	0	0	30	85	1.980
	1925.2	1.88	0	0	30	85	1.980
	1924.8	2.11	0	0	30	85	1.980
	1912.3	1.55	0	0	30	85	1.980
	1856.6	1.49	0	0	30	85	1.980
	1849.7	1.57	0	0	30	85	1.980
	1841.4	1.49	0	0	30	85	1.980
	1824.6	1.47	0	0	30	85	1.980
	1814.4	1.49	0	0	30	85	1.980
	1820.8	1.74	0	0	30	85	1.980
	1832.5	1.75	0	0	30	85	1.980
	1825.6	1.89	0	0	30	85	1.980
	1840.7	1.94	0	0	30	85	1.980
	1827.1	2.00	0	0	30	85	1.980
	1815.4	1.90	0	0	30	85	1.980
	1810.1	2.04	0	0	30	85	1.980
	1794.9	2.05	0	0	30	85	1.980
	1806.3	2.29	0	0	30	85	1.980
	1831.6	2.29	0	0	30	85	1.980
	1769.2	2.25	0	0	30	85	1.980
	1776.8	1.77	0	0	30	85	1.980
	1768.7	1.56	0	0	30	85	1.980
	1772.3	1.45	0	0	30	85	1.980
	1780.6	1.48	0	0	30	85	1.980
	1796.0	1.38	0	0	30	85	1.980
	1635.2	1.58	0	0	30	85	1.980
	1638.5	1.67	0	0	30	85	1.980
	1629.8	1.78	0	0	30	85	1.980
	1618.0	1.76	0	0	30	85	1.980
	1636.1	2.05	0	0	30	85	1.980
	1601.4	1.60	0	0	30	85	1.980
	1587.9	1.64	0	0	30	85	1.980
	1597.9	1.71	0	0	30	85	1.980
	1599.3	1.85	0	0	30	85	1.980
	1587.4	1.91	0	0	30	85	1.980
	1578.8	1.98	0	0	30	85	1.980
	1572.3	1.83	0	0	30	85	1.980
	1558.8	1.84	0	0	30	85	1.980
	1563.7	1.98	0	0	30	85	1.980
	1558.3	2.13	0	0	30	85	1.980
	1573.6	2.09	0	0	30	85	1.980
	1573.3	2.24	0	0	30	85	1.980
	1590.4	2.16	0	0	30	85	1.980
	1551.8	2.01	0	0	30	85	1.980
	1540.0	2.01	0	0	30	85	1.980
	1544.8	2.16	0	0	30	85	1.980

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1546.2	2.32	0	0	30	85	1.980
	1526.4	2.04	0	0	30	85	1.980
	1518.4	1.79	0	0	30	85	1.980
	1523.4	1.84	0	0	30	85	1.980
	1521.6	1.90	0	0	30	85	1.980
	1506.3	1.92	0	0	30	85	1.980
	1514.6	2.04	0	0	30	85	1.980
	1494.4	2.00	0	0	30	85	1.980
	1502.5	2.17	0	0	30	85	1.980
	1514.2	2.27	0	0	30	85	1.980
	1461.2	1.65	0	0	30	85	1.980
	1179.5	1.43	0	0	30	85	1.980
	1186.1	1.54	0	0	30	85	1.980
	1198.0	1.52	0	0	30	85	1.980
	1208.1	1.52	0	0	30	85	1.980
	1196.4	1.42	0	0	30	85	1.980
	1215.0	1.42	0	0	30	85	1.980
	1223.1	1.64	0	0	30	85	1.980
	1217.9	1.74	0	0	30	85	1.980
	1233.0	1.77	0	0	30	85	1.980
	1231.1	1.92	0	0	30	85	1.980
	1241.2	1.91	0	0	30	85	1.980
	1239.3	2.06	0	0	30	85	1.980
	1179.0	1.77	0	0	30	85	1.980
	1182.2	1.85	0	0	30	85	1.980
	1176.9	2.00	0	0	30	85	1.980
	1183.5	2.10	0	0	30	85	1.980
	1181.6	2.22	0	0	30	85	1.980
	1196.8	2.20	0	0	30	85	1.980
	1207.0	2.19	0	0	30	85	1.980
	1189.7	2.44	0	0	30	85	1.980
	1176.0	2.52	0	0	30	85	1.980
	1204.5	2.62	0	0	30	85	1.980
	1207.5	2.85	0	0	30	85	1.980
	1225.1	2.44	0	0	30	85	1.980
	1282.7	2.35	0	0	30	85	1.980
	1294.4	2.43	0	0	30	85	1.980
	1311.2	2.48	0	0	30	85	1.980
	1322.8	2.57	0	0	30	85	1.980
	1331.5	2.43	0	0	30	85	1.980
	1346.8	2.39	0	0	30	85	1.980
	1340.4	2.17	0	0	30	85	1.980
	1309.6	2.38	0	0	30	85	1.980
	1316.8	2.15	0	0	30	85	1.980
	1321.9	2.10	0	0	30	85	1.980
	1301.8	2.05	0	0	30	85	1.980
	1291.4	2.21	0	0	30	85	1.980
	1303.9	1.81	0	0	30	85	1.980
	1312.6	1.63	0	0	30	85	1.980
	1322.6	1.73	0	0	30	85	1.980
	1327.3	1.92	0	0	30	85	1.980
	1335.8	1.88	0	0	30	85	1.980
	1358.0	1.74	0	0	30	85	1.980
	1374.9	1.74	0	0	30	85	1.980
	1378.5	1.59	0	0	30	85	1.980
	1407.2	1.61	0	0	30	85	1.980
	1381.6	1.77	0	0	30	85	1.980
	1374.7	1.86	0	0	30	85	1.980
	1386.3	1.97	0	0	30	85	1.980
	1388.2	1.87	0	0	30	85	1.980
	1396.6	1.89	0	0	30	85	1.980
	1411.6	1.99	0	0	30	85	1.980
	1399.7	2.07	0	0	30	85	1.980
	1399.4	2.21	0	0	30	85	1.980
	1411.2	2.23	0	0	30	85	1.980
	1419.9	2.09	0	0	30	85	1.980
	1428.3	2.09	0	0	30	85	1.980

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1431.5	2.23	0	0	30	85	1.980
	1424.7	2.24	0	0	30	85	1.980
	1414.4	2.34	0	0	30	85	1.980
	1401.0	2.31	0	0	30	85	1.980
	1372.4	2.24	0	0	30	85	1.980
	1382.1	2.49	0	0	30	85	1.980
Fukushima et al. (1982)							
	682.5	5.09	0	0	0	95.4	2.000
	682.3	4.82	0	0	0	95.4	2.000
	693.7	4.84	0	0	0	95.4	2.000
	721.2	4.77	0	0	0	95.4	2.000
	721.2	4.67	0	0	0	95.4	2.000
	721.1	4.61	0	0	0	95.4	2.000
	732.5	4.47	0	0	0	95.4	2.000
	748.6	4.48	0	0	0	95.4	2.000
	771.5	4.50	0	0	0	95.4	2.000
	771.4	4.36	0	0	0	95.4	2.000
	782.9	4.36	0	0	0	95.4	2.000
	819.6	4.26	0	0	0	95.4	2.000
	819.5	4.18	0	0	0	95.4	2.000
	821.7	4.08	0	0	0	95.4	2.000
	862.9	3.94	0	0	0	95.4	2.000
	874.4	3.95	0	0	0	95.4	2.000
	876.6	3.82	0	0	0	95.4	2.000
	927.1	3.80	0	0	0	95.4	2.000
	927.1	3.74	0	0	0	95.4	2.000
	927.0	3.65	0	0	0	95.4	2.000
	984.4	3.58	0	0	0	95.4	2.000
	982.0	3.50	0	0	0	95.4	2.000
	982.0	3.45	0	0	0	95.4	2.000
	1032.5	3.48	0	0	0	95.4	2.000
	1032.5	3.41	0	0	0	95.4	2.000
	1032.4	3.33	0	0	0	95.4	2.000
	1073.7	3.21	0	0	0	95.4	2.000
	1087.5	3.21	0	0	0	95.4	2.000
	1101.2	3.22	0	0	0	95.4	2.000
	1105.8	3.15	0	0	0	95.4	2.000
	1105.7	3.04	0	0	0	95.4	2.000
	1131.0	3.05	0	0	0	95.4	2.000
	1142.5	3.05	0	0	0	95.4	2.000
	1144.7	2.99	0	0	0	95.4	2.000
	1195.2	3.00	0	0	0	95.4	2.000
	1192.9	2.95	0	0	0	95.4	2.000
	1192.9	2.87	0	0	0	95.4	2.000
	1236.5	2.84	0	0	0	95.4	2.000
	1236.4	2.79	0	0	0	95.4	2.000
	1236.4	2.74	0	0	0	95.4	2.000
	1282.3	2.72	0	0	0	95.4	2.000
	1298.4	2.74	0	0	0	95.4	2.000
	1296.1	2.68	0	0	0	95.4	2.000
	1332.8	2.70	0	0	0	95.4	2.000
	1332.8	2.64	0	0	0	95.4	2.000
	1332.8	2.61	0	0	0	95.4	2.000
	1369.5	2.62	0	0	0	95.4	2.000
	1378.7	2.61	0	0	0	95.4	2.000
	1376.4	2.55	0	0	0	95.4	2.000
	1433.7	2.50	0	0	0	95.4	2.000
	1431.5	2.57	0	0	0	95.4	2.000
	1447.5	2.50	0	0	0	95.4	2.000
	1488.8	2.48	0	0	0	95.4	2.000
	1488.8	2.43	0	0	0	95.4	2.000
	1491.1	2.39	0	0	0	95.4	2.000
	1550.8	2.39	0	0	0	95.4	2.000
	1546.2	2.32	0	0	0	95.4	2.000
	1559.9	2.34	0	0	0	95.4	2.000
	1605.8	2.28	0	0	0	95.4	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1615.0	2.29	0	0	0	95.4	2.000
	1604.0	2.36	0	0	0	95.4	2.000
	1655.6	2.24	0	0	0	95.4	2.000
	1667.1	2.27	0	0	0	95.4	2.000
	1680.4	2.25	0	0	0	95.4	2.000
	1732.1	2.19	0	0	0	95.4	2.000
	1734.0	2.23	0	0	0	95.4	2.000
	1745.5	2.20	0	0	0	95.4	2.000
	1787.6	2.19	0	0	0	95.4	2.000
	1801.0	2.19	0	0	0	95.4	2.000
	1799.0	2.15	0	0	0	95.4	2.000
	1846.9	2.17	0	0	0	95.4	2.000
	1858.4	2.18	0	0	0	95.4	2.000
	1862.1	2.09	0	0	0	95.4	2.000
	1921.5	2.11	0	0	0	95.4	2.000
	1936.8	2.13	0	0	0	95.4	2.000
	1936.8	2.07	0	0	0	95.4	2.000
	2001.8	2.03	0	0	0	95.4	2.000
	2001.8	2.08	0	0	0	95.4	2.000
	1999.9	2.12	0	0	0	95.4	2.000
	673.3	4.18	0	0.99	0	95.8	1.998
	684.8	4.19	0	0.99	0	95.8	1.998
	682.8	4.09	0	0.99	0	95.8	1.998
	721.1	4.12	0	0.99	0	95.8	1.998
	721.0	3.97	0	0.99	0	95.8	1.998
	732.5	3.98	0	0.99	0	95.8	1.998
	744.0	4.00	0	0.99	0	95.8	1.998
	745.8	3.84	0	0.99	0	95.8	1.998
	768.7	3.77	0	0.99	0	95.8	1.998
	770.6	3.85	0	0.99	0	95.8	1.998
	770.7	3.98	0	0.99	0	95.8	1.998
	820.3	3.69	0	0.99	0	95.8	1.998
	820.2	3.61	0	0.99	0	95.8	1.998
	831.7	3.62	0	0.99	0	95.8	1.998
	875.6	3.45	0	0.99	0	95.8	1.998
	879.4	3.42	0	0.99	0	95.8	1.998
	887.0	3.42	0	0.99	0	95.8	1.998
	875.5	3.40	0	0.99	0	95.8	1.998
	927.2	3.36	0	0.99	0	95.8	1.998
	929.1	3.32	0	0.99	0	95.8	1.998
	927.1	3.27	0	0.99	0	95.8	1.998
	980.7	3.23	0	0.99	0	95.8	1.998
	982.5	3.16	0	0.99	0	95.8	1.998
	980.6	3.13	0	0.99	0	95.8	1.998
	1018.8	3.05	0	0.99	0	95.8	1.998
	1032.2	3.07	0	0.99	0	95.8	1.998
	1043.7	3.07	0	0.99	0	95.8	1.998
	1087.7	2.98	0	0.99	0	95.8	1.998
	1089.5	2.92	0	0.99	0	95.8	1.998
	1087.6	2.87	0	0.99	0	95.8	1.998
	1101.0	2.83	0	0.99	0	95.8	1.998
	1114.4	2.84	0	0.99	0	95.8	1.998
	1143.0	2.79	0	0.99	0	95.8	1.998
	1143.1	2.83	0	0.99	0	95.8	1.998
	1154.5	2.80	0	0.99	0	95.8	1.998
	1190.8	2.70	0	0.99	0	95.8	1.998
	1192.7	2.66	0	0.99	0	95.8	1.998
	1206.1	2.67	0	0.99	0	95.8	1.998
	1236.7	2.67	0	0.99	0	95.8	1.998
	1238.6	2.63	0	0.99	0	95.8	1.998
	1238.5	2.54	0	0.99	0	95.8	1.998
	1297.8	2.47	0	0.99	0	95.8	1.998
	1297.9	2.52	0	0.99	0	95.8	1.998
	1309.3	2.48	0	0.99	0	95.8	1.998
	1332.2	2.41	0	0.99	0	95.8	1.998
	1332.3	2.45	0	0.99	0	95.8	1.998
	1339.9	2.46	0	0.99	0	95.8	1.998

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1364.7	2.38	0	0.99	0	95.8	1.998
	1378.2	2.39	0	0.99	0	95.8	1.998
	1387.7	2.39	0	0.99	0	95.8	1.998
	1433.6	2.33	0	0.99	0	95.8	1.998
	1431.7	2.30	0	0.99	0	95.8	1.998
	1443.2	2.29	0	0.99	0	95.8	1.998
	1475.7	2.25	0	0.99	0	95.8	1.998
	1487.2	2.28	0	0.99	0	95.8	1.998
	1498.6	2.24	0	0.99	0	95.8	1.998
	1538.8	2.21	0	0.99	0	95.8	1.998
	1548.4	2.21	0	0.99	0	95.8	1.998
	1554.1	2.19	0	0.99	0	95.8	1.998
	1605.7	2.13	0	0.99	0	95.8	1.998
	1605.7	2.16	0	0.99	0	95.8	1.998
	1617.2	2.13	0	0.99	0	95.8	1.998
	1653.5	2.07	0	0.99	0	95.8	1.998
	1666.9	2.07	0	0.99	0	95.8	1.998
	1676.5	2.07	0	0.99	0	95.8	1.998
	1722.4	2.05	0	0.99	0	95.8	1.998
	1732.0	2.06	0	0.99	0	95.8	1.998
	1745.4	2.06	0	0.99	0	95.8	1.998
	1789.4	2.00	0	0.99	0	95.8	1.998
	1800.8	2.01	0	0.99	0	95.8	1.998
	1812.3	2.01	0	0.99	0	95.8	1.998
	1850.6	1.97	0	0.99	0	95.8	1.998
	1862.1	1.97	0	0.99	0	95.8	1.998
	1873.5	1.98	0	0.99	0	95.8	1.998
	1929.0	1.92	0	0.99	0	95.8	1.998
	1936.7	1.95	0	0.99	0	95.8	1.998
	1944.3	1.93	0	0.99	0	95.8	1.998
	1992.1	1.91	0	0.99	0	95.8	1.998
	2001.7	1.93	0	0.99	0	95.8	1.998
	2013.2	1.94	0	0.99	0	95.8	1.998
	686.3	3.60	0	2.03	0	95.3	1.997
	684.3	3.53	0	2.03	0	95.3	1.997
	701.6	3.54	0	2.03	0	95.3	1.997
	720.7	3.53	0	2.03	0	95.3	1.997
	720.6	3.47	0	2.03	0	95.3	1.997
	722.5	3.41	0	2.03	0	95.3	1.997
	745.4	3.36	0	2.03	0	95.3	1.997
	745.4	3.29	0	2.03	0	95.3	1.997
	772.1	3.28	0	2.03	0	95.3	1.997
	772.2	3.34	0	2.03	0	95.3	1.997
	772.3	3.41	0	2.03	0	95.3	1.997
	820.0	3.36	0	2.03	0	95.3	1.997
	821.9	3.26	0	2.03	0	95.3	1.997
	831.5	3.26	0	2.03	0	95.3	1.997
	865.7	3.06	0	2.03	0	95.3	1.997
	877.2	3.06	0	2.03	0	95.3	1.997
	886.8	3.07	0	2.03	0	95.3	1.997
	913.5	2.96	0	2.03	0	95.3	1.997
	926.9	2.96	0	2.03	0	95.3	1.997
	928.8	2.87	0	2.03	0	95.3	1.997
	984.2	2.86	0	2.03	0	95.3	1.997
	984.2	2.81	0	2.03	0	95.3	1.997
	984.2	2.76	0	2.03	0	95.3	1.997
	1020.5	2.73	0	2.03	0	95.3	1.997
	1032.0	2.74	0	2.03	0	95.3	1.997
	1032.0	2.68	0	2.03	0	95.3	1.997
	1089.4	2.67	0	2.03	0	95.3	1.997
	1089.3	2.63	0	2.03	0	95.3	1.997
	1089.3	2.58	0	2.03	0	95.3	1.997
	1108.5	2.62	0	2.03	0	95.3	1.997
	1108.5	2.59	0	2.03	0	95.3	1.997
	1108.4	2.56	0	2.03	0	95.3	1.997
	1131.4	2.56	0	2.03	0	95.3	1.997

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1142.9	2.56	0	2.03	0	95.3	1.997
	1142.8	2.51	0	2.03	0	95.3	1.997
	1194.5	2.47	0	2.03	0	95.3	1.997
	1194.5	2.43	0	2.03	0	95.3	1.997
	1194.4	2.38	0	2.03	0	95.3	1.997
	1240.4	2.39	0	2.03	0	95.3	1.997
	1240.3	2.34	0	2.03	0	95.3	1.997
	1253.7	2.35	0	2.03	0	95.3	1.997
	1299.7	2.33	0	2.03	0	95.3	1.997
	1297.7	2.28	0	2.03	0	95.3	1.997
	1309.2	2.29	0	2.03	0	95.3	1.997
	1318.7	2.25	0	2.03	0	95.3	1.997
	1332.1	2.25	0	2.03	0	95.3	1.997
	1343.6	2.25	0	2.03	0	95.3	1.997
	1376.1	2.22	0	2.03	0	95.3	1.997
	1376.1	2.20	0	2.03	0	95.3	1.997
	1378.0	2.15	0	2.03	0	95.3	1.997
	1431.6	2.15	0	2.03	0	95.3	1.997
	1431.6	2.11	0	2.03	0	95.3	1.997
	1448.8	2.11	0	2.03	0	95.3	1.997
	1487.1	2.12	0	2.03	0	95.3	1.997
	1487.0	2.06	0	2.03	0	95.3	1.997
	1496.6	2.09	0	2.03	0	95.3	1.997
	1548.3	2.07	0	2.03	0	95.3	1.997
	1548.3	2.03	0	2.03	0	95.3	1.997
	1557.8	2.04	0	2.03	0	95.3	1.997
	1607.6	2.01	0	2.03	0	95.3	1.997
	1607.5	1.96	0	2.03	0	95.3	1.997
	1622.8	1.96	0	2.03	0	95.3	1.997
	1668.8	1.97	0	2.03	0	95.3	1.997
	1668.8	1.93	0	2.03	0	95.3	1.997
	1684.1	1.95	0	2.03	0	95.3	1.997
	1733.8	1.94	0	2.03	0	95.3	1.997
	1733.8	1.89	0	2.03	0	95.3	1.997
	1745.3	1.90	0	2.03	0	95.3	1.997
	1802.7	1.88	0	2.03	0	95.3	1.997
	1802.7	1.84	0	2.03	0	95.3	1.997
	1812.2	1.85	0	2.03	0	95.3	1.997
	1856.2	1.81	0	2.03	0	95.3	1.997
	1862.0	1.83	0	2.03	0	95.3	1.997
	1875.4	1.83	0	2.03	0	95.3	1.997
	1927.0	1.77	0	2.03	0	95.3	1.997
	1938.5	1.81	0	2.03	0	95.3	1.997
	1951.9	1.79	0	2.03	0	95.3	1.997
	1990.2	1.82	0	2.03	0	95.3	1.997
	1999.7	1.83	0	2.03	0	95.3	1.997
	2015.1	1.84	0	2.03	0	95.3	1.997
	684.1	3.22	0	4.04	0	94.5	2.000
	684.1	3.17	0	4.04	0	94.5	2.000
	684.0	3.11	0	4.04	0	94.5	2.000
	718.5	3.08	0	4.04	0	94.5	2.000
	728.0	3.07	0	4.04	0	94.5	2.000
	722.3	3.03	0	4.04	0	94.5	2.000
	770.1	3.00	0	4.04	0	94.5	2.000
	770.0	2.93	0	4.04	0	94.5	2.000
	771.9	2.90	0	4.04	0	94.5	2.000
	745.1	2.86	0	4.04	0	94.5	2.000
	745.1	2.93	0	4.04	0	94.5	2.000
	810.1	2.84	0	4.04	0	94.5	2.000
	819.7	2.84	0	4.04	0	94.5	2.000
	821.6	2.80	0	4.04	0	94.5	2.000
	877.0	2.73	0	4.04	0	94.5	2.000
	875.1	2.69	0	4.04	0	94.5	2.000
	876.9	2.62	0	4.04	0	94.5	2.000
	928.6	2.65	0	4.04	0	94.5	2.000
	928.6	2.58	0	4.04	0	94.5	2.000
	942.0	2.58	0	4.04	0	94.5	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	970.6	2.53	0	4.04	0	94.5	2.000
	982.1	2.53	0	4.04	0	94.5	2.000
	995.5	2.53	0	4.04	0	94.5	2.000
	1033.8	2.49	0	4.04	0	94.5	2.000
	1031.8	2.46	0	4.04	0	94.5	2.000
	1033.7	2.41	0	4.04	0	94.5	2.000
	1079.6	2.40	0	4.04	0	94.5	2.000
	1089.2	2.41	0	4.04	0	94.5	2.000
	1087.3	2.36	0	4.04	0	94.5	2.000
	1108.3	2.40	0	4.04	0	94.5	2.000
	1110.2	2.27	0	4.04	0	94.5	2.000
	1144.6	2.29	0	4.04	0	94.5	2.000
	1144.7	2.33	0	4.04	0	94.5	2.000
	1156.1	2.27	0	4.04	0	94.5	2.000
	1194.3	2.23	0	4.04	0	94.5	2.000
	1194.3	2.19	0	4.04	0	94.5	2.000
	1194.3	2.15	0	4.04	0	94.5	2.000
	1238.3	2.16	0	4.04	0	94.5	2.000
	1238.3	2.11	0	4.04	0	94.5	2.000
	1247.9	2.13	0	4.04	0	94.5	2.000
	1297.6	2.09	0	4.04	0	94.5	2.000
	1297.6	2.07	0	4.04	0	94.5	2.000
	1286.1	2.10	0	4.04	0	94.5	2.000
	1322.4	2.05	0	4.04	0	94.5	2.000
	1333.9	2.05	0	4.04	0	94.5	2.000
	1345.4	2.04	0	4.04	0	94.5	2.000
	1377.9	2.03	0	4.04	0	94.5	2.000
	1377.9	2.00	0	4.04	0	94.5	2.000
	1379.8	1.96	0	4.04	0	94.5	2.000
	1433.4	1.93	0	4.04	0	94.5	2.000
	1431.5	1.97	0	4.04	0	94.5	2.000
	1444.9	1.95	0	4.04	0	94.5	2.000
	1488.9	1.93	0	4.04	0	94.5	2.000
	1488.8	1.88	0	4.04	0	94.5	2.000
	1500.3	1.89	0	4.04	0	94.5	2.000
	1550.1	1.86	0	4.04	0	94.5	2.000
	1557.7	1.86	0	4.04	0	94.5	2.000
	1540.5	1.86	0	4.04	0	94.5	2.000
	1609.4	1.84	0	4.04	0	94.5	2.000
	1609.4	1.80	0	4.04	0	94.5	2.000
	1618.9	1.79	0	4.04	0	94.5	2.000
	1657.2	1.80	0	4.04	0	94.5	2.000
	1666.8	1.80	0	4.04	0	94.5	2.000
	1678.3	1.81	0	4.04	0	94.5	2.000
	1722.2	1.76	0	4.04	0	94.5	2.000
	1733.7	1.76	0	4.04	0	94.5	2.000
	1745.2	1.76	0	4.04	0	94.5	2.000
	1802.6	1.73	0	4.04	0	94.5	2.000
	1802.6	1.70	0	4.04	0	94.5	2.000
	1812.2	1.70	0	4.04	0	94.5	2.000
	1854.3	1.71	0	4.04	0	94.5	2.000
	1863.8	1.71	0	4.04	0	94.5	2.000
	1873.4	1.70	0	4.04	0	94.5	2.000
	1928.9	1.68	0	4.04	0	94.5	2.000
	1936.5	1.69	0	4.04	0	94.5	2.000
	1949.9	1.69	0	4.04	0	94.5	2.000
	1990.1	1.70	0	4.04	0	94.5	2.000
	1999.7	1.69	0	4.04	0	94.5	2.000
	2011.2	1.67	0	4.04	0	94.5	2.000
	685.7	2.85	0	6.03	0	94.7	2.002
	685.7	2.80	0	6.03	0	94.7	2.002
	689.5	2.77	0	6.03	0	94.7	2.002
	712.5	2.74	0	6.03	0	94.7	2.002
	723.9	2.75	0	6.03	0	94.7	2.002
	720.1	2.68	0	6.03	0	94.7	2.002
	746.8	2.60	0	6.03	0	94.7	2.002

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	744.9	2.69	0	6.03	0	94.7	2.002
	771.7	2.70	0	6.03	0	94.7	2.002
	771.7	2.67	0	6.03	0	94.7	2.002
	771.7	2.61	0	6.03	0	94.7	2.002
	821.4	2.63	0	6.03	0	94.7	2.002
	821.4	2.59	0	6.03	0	94.7	2.002
	834.8	2.58	0	6.03	0	94.7	2.002
	878.8	2.53	0	6.03	0	94.7	2.002
	878.7	2.48	0	6.03	0	94.7	2.002
	888.3	2.49	0	6.03	0	94.7	2.002
	920.8	2.41	0	6.03	0	94.7	2.002
	930.4	2.42	0	6.03	0	94.7	2.002
	941.8	2.42	0	6.03	0	94.7	2.002
	970.5	2.35	0	6.03	0	94.7	2.002
	983.9	2.36	0	6.03	0	94.7	2.002
	985.8	2.30	0	6.03	0	94.7	2.002
	1022.1	2.28	0	6.03	0	94.7	2.002
	1035.5	2.29	0	6.03	0	94.7	2.002
	1035.5	2.24	0	6.03	0	94.7	2.002
	1091.0	2.19	0	6.03	0	94.7	2.002
	1100.5	2.18	0	6.03	0	94.7	2.002
	1113.9	2.18	0	6.03	0	94.7	2.002
	1087.2	2.24	0	6.03	0	94.7	2.002
	1142.6	2.09	0	6.03	0	94.7	2.002
	1146.4	2.13	0	6.03	0	94.7	2.002
	1142.6	2.16	0	6.03	0	94.7	2.002
	1194.2	2.08	0	6.03	0	94.7	2.002
	1192.3	2.12	0	6.03	0	94.7	2.002
	1205.7	2.08	0	6.03	0	94.7	2.002
	1228.6	2.03	0	6.03	0	94.7	2.002
	1238.2	2.03	0	6.03	0	94.7	2.002
	1249.7	2.03	0	6.03	0	94.7	2.002
	1284.1	1.97	0	6.03	0	94.7	2.002
	1297.5	2.00	0	6.03	0	94.7	2.002
	1307.1	1.97	0	6.03	0	94.7	2.002
	1322.4	1.94	0	6.03	0	94.7	2.002
	1331.9	1.94	0	6.03	0	94.7	2.002
	1333.8	1.90	0	6.03	0	94.7	2.002
	1368.3	1.91	0	6.03	0	94.7	2.002
	1377.8	1.87	0	6.03	0	94.7	2.002
	1377.8	1.91	0	6.03	0	94.7	2.002
	1435.2	1.86	0	6.03	0	94.7	2.002
	1433.3	1.89	0	6.03	0	94.7	2.002
	1446.7	1.85	0	6.03	0	94.7	2.002
	1488.8	1.83	0	6.03	0	94.7	2.002
	1488.8	1.80	0	6.03	0	94.7	2.002
	1502.2	1.80	0	6.03	0	94.7	2.002
	1540.5	1.80	0	6.03	0	94.7	2.002
	1548.1	1.80	0	6.03	0	94.7	2.002
	1546.2	1.76	0	6.03	0	94.7	2.002
	1607.4	1.72	0	6.03	0	94.7	2.002
	1605.5	1.76	0	6.03	0	94.7	2.002
	1622.7	1.72	0	6.03	0	94.7	2.002
	1666.7	1.70	0	6.03	0	94.7	2.002
	1666.7	1.73	0	6.03	0	94.7	2.002
	1682.0	1.72	0	6.03	0	94.7	2.002
	1722.2	1.69	0	6.03	0	94.7	2.002
	1733.7	1.69	0	6.03	0	94.7	2.002
	1747.1	1.68	0	6.03	0	94.7	2.002
	1791.1	1.66	0	6.03	0	94.7	2.002
	1800.6	1.66	0	6.03	0	94.7	2.002
	1810.2	1.65	0	6.03	0	94.7	2.002
	1852.3	1.65	0	6.03	0	94.7	2.002
	1861.9	1.65	0	6.03	0	94.7	2.002
	1873.4	1.65	0	6.03	0	94.7	2.002
	1926.9	1.64	0	6.03	0	94.7	2.002
	1938.4	1.63	0	6.03	0	94.7	2.002

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1951.8	1.63	0	6.03	0	94.7	2.002
	1988.2	1.63	0	6.03	0	94.7	2.002
	2003.5	1.63	0	6.03	0	94.7	2.002
	2011.1	1.63	0	6.03	0	94.7	2.002
	685.5	2.54	0	8.1	0	95.7	2.003
	685.4	2.51	0	8.1	0	95.7	2.003
	687.3	2.48	0	8.1	0	95.7	2.003
	721.8	2.50	0	8.1	0	95.7	2.003
	721.8	2.45	0	8.1	0	95.7	2.003
	723.6	2.41	0	8.1	0	95.7	2.003
	738.9	2.39	0	8.1	0	95.7	2.003
	752.3	2.39	0	8.1	0	95.7	2.003
	773.4	2.40	0	8.1	0	95.7	2.003
	773.4	2.44	0	8.1	0	95.7	2.003
	784.9	2.41	0	8.1	0	95.7	2.003
	811.6	2.34	0	8.1	0	95.7	2.003
	823.1	2.35	0	8.1	0	95.7	2.003
	834.6	2.35	0	8.1	0	95.7	2.003
	876.7	2.31	0	8.1	0	95.7	2.003
	878.5	2.28	0	8.1	0	95.7	2.003
	878.5	2.24	0	8.1	0	95.7	2.003
	928.3	2.22	0	8.1	0	95.7	2.003
	928.2	2.19	0	8.1	0	95.7	2.003
	941.7	2.20	0	8.1	0	95.7	2.003
	974.2	2.16	0	8.1	0	95.7	2.003
	983.7	2.17	0	8.1	0	95.7	2.003
	983.7	2.14	0	8.1	0	95.7	2.003
	1022.0	2.13	0	8.1	0	95.7	2.003
	1033.5	2.13	0	8.1	0	95.7	2.003
	1044.9	2.13	0	8.1	0	95.7	2.003
	1087.0	2.08	0	8.1	0	95.7	2.003
	1088.9	2.04	0	8.1	0	95.7	2.003
	1088.9	1.99	0	8.1	0	95.7	2.003
	1106.1	1.99	0	8.1	0	95.7	2.003
	1104.2	2.08	0	8.1	0	95.7	2.003
	1144.4	2.00	0	8.1	0	95.7	2.003
	1146.3	1.96	0	8.1	0	95.7	2.003
	1155.8	1.96	0	8.1	0	95.7	2.003
	1184.5	1.94	0	8.1	0	95.7	2.003
	1196.0	1.91	0	8.1	0	95.7	2.003
	1194.1	1.95	0	8.1	0	95.7	2.003
	1240.0	1.91	0	8.1	0	95.7	2.003
	1240.0	1.88	0	8.1	0	95.7	2.003
	1249.6	1.88	0	8.1	0	95.7	2.003
	1299.3	1.84	0	8.1	0	95.7	2.003
	1307.0	1.85	0	8.1	0	95.7	2.003
	1297.4	1.88	0	8.1	0	95.7	2.003
	1324.2	1.82	0	8.1	0	95.7	2.003
	1335.6	1.82	0	8.1	0	95.7	2.003
	1345.2	1.81	0	8.1	0	95.7	2.003
	1368.2	1.80	0	8.1	0	95.7	2.003
	1379.7	1.81	0	8.1	0	95.7	2.003
	1389.2	1.79	0	8.1	0	95.7	2.003
	1435.1	1.73	0	8.1	0	95.7	2.003
	1442.8	1.75	0	8.1	0	95.7	2.003
	1435.2	1.78	0	8.1	0	95.7	2.003
	1477.2	1.74	0	8.1	0	95.7	2.003
	1490.6	1.73	0	8.1	0	95.7	2.003
	1502.1	1.73	0	8.1	0	95.7	2.003
	1548.0	1.67	0	8.1	0	95.7	2.003
	1549.9	1.71	0	8.1	0	95.7	2.003
	1559.5	1.70	0	8.1	0	95.7	2.003
	1611.1	1.65	0	8.1	0	95.7	2.003
	1609.2	1.68	0	8.1	0	95.7	2.003
	1622.6	1.64	0	8.1	0	95.7	2.003
	1659.0	1.63	0	8.1	0	95.7	2.003

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1668.6	1.64	0	8.1	0	95.7	2.003
	1683.9	1.66	0	8.1	0	95.7	2.003
	1737.4	1.63	0	8.1	0	95.7	2.003
	1737.4	1.62	0	8.1	0	95.7	2.003
	1745.1	1.61	0	8.1	0	95.7	2.003
	1796.7	1.58	0	8.1	0	95.7	2.003
	1804.4	1.61	0	8.1	0	95.7	2.003
	1815.9	1.58	0	8.1	0	95.7	2.003
	1856.1	1.58	0	8.1	0	95.7	2.003
	1865.7	1.61	0	8.1	0	95.7	2.003
	1873.3	1.58	0	8.1	0	95.7	2.003
	1926.9	1.58	0	8.1	0	95.7	2.003
	1936.5	1.60	0	8.1	0	95.7	2.003
	1944.1	1.57	0	8.1	0	95.7	2.003
	1988.1	1.57	0	8.1	0	95.7	2.003
	1999.6	1.56	0	8.1	0	95.7	2.003
	2013.0	1.57	0	8.1	0	95.7	2.003
	687.2	2.31	0	10.33	0	95.9	1.998
	687.2	2.28	0	10.33	0	95.9	1.998
	702.5	2.29	0	10.33	0	95.9	1.998
	712.0	2.20	0	10.33	0	95.9	1.998
	721.6	2.20	0	10.33	0	95.9	1.998
	733.1	2.21	0	10.33	0	95.9	1.998
	748.4	2.29	0	10.33	0	95.9	1.998
	748.3	2.15	0	10.33	0	95.9	1.998
	773.2	2.14	0	10.33	0	95.9	1.998
	773.2	2.18	0	10.33	0	95.9	1.998
	773.2	2.21	0	10.33	0	95.9	1.998
	823.0	2.19	0	10.33	0	95.9	1.998
	821.0	2.15	0	10.33	0	95.9	1.998
	822.9	2.12	0	10.33	0	95.9	1.998
	878.4	2.03	0	10.33	0	95.9	1.998
	878.4	2.07	0	10.33	0	95.9	1.998
	876.5	2.11	0	10.33	0	95.9	1.998
	930.0	2.04	0	10.33	0	95.9	1.998
	930.0	2.02	0	10.33	0	95.9	1.998
	930.0	1.98	0	10.33	0	95.9	1.998
	983.6	1.95	0	10.33	0	95.9	1.998
	985.5	1.98	0	10.33	0	95.9	1.998
	983.6	2.01	0	10.33	0	95.9	1.998
	1021.8	1.94	0	10.33	0	95.9	1.998
	1035.2	1.94	0	10.33	0	95.9	1.998
	1046.7	1.94	0	10.33	0	95.9	1.998
	1075.4	1.93	0	10.33	0	95.9	1.998
	1090.7	1.94	0	10.33	0	95.9	1.998
	1088.8	1.90	0	10.33	0	95.9	1.998
	1109.9	1.91	0	10.33	0	95.9	1.998
	1113.7	1.88	0	10.33	0	95.9	1.998
	1109.8	1.85	0	10.33	0	95.9	1.998
	1144.3	1.84	0	10.33	0	95.9	1.998
	1144.3	1.88	0	10.33	0	95.9	1.998
	1157.7	1.83	0	10.33	0	95.9	1.998
	1182.5	1.82	0	10.33	0	95.9	1.998
	1197.8	1.82	0	10.33	0	95.9	1.998
	1194.0	1.78	0	10.33	0	95.9	1.998
	1239.9	1.77	0	10.33	0	95.9	1.998
	1239.9	1.80	0	10.33	0	95.9	1.998
	1249.5	1.76	0	10.33	0	95.9	1.998
	1285.8	1.76	0	10.33	0	95.9	1.998
	1301.2	1.76	0	10.33	0	95.9	1.998
	1297.3	1.73	0	10.33	0	95.9	1.998
	1335.6	1.75	0	10.33	0	95.9	1.998
	1335.6	1.72	0	10.33	0	95.9	1.998
	1347.0	1.70	0	10.33	0	95.9	1.998
	1379.6	1.72	0	10.33	0	95.9	1.998
	1381.5	1.67	0	10.33	0	95.9	1.998
	1391.1	1.70	0	10.33	0	95.9	1.998

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	*T* (K)	*k* (W/m-K)	*Bu* (GWd/t)	*Gd* (wt.%)	*Pu* (wt.%)	TD (%)	O/M (-)
	1435.1	1.68	0	10.33	0	95.9	1.998
	1437.0	1.67	0	10.33	0	95.9	1.998
	1446.5	1.65	0	10.33	0	95.9	1.998
	1481.0	1.63	0	10.33	0	95.9	1.998
	1490.6	1.65	0	10.33	0	95.9	1.998
	1503.9	1.64	0	10.33	0	95.9	1.998
	1536.5	1.60	0	10.33	0	95.9	1.998
	1547.9	1.60	0	10.33	0	95.9	1.998
	1561.3	1.59	0	10.33	0	95.9	1.998
	1595.8	1.58	0	10.33	0	95.9	1.998
	1609.2	1.58	0	10.33	0	95.9	1.998
	1620.7	1.56	0	10.33	0	95.9	1.998
	1657.0	1.57	0	10.33	0	95.9	1.998
	1666.6	1.58	0	10.33	0	95.9	1.998
	1680.0	1.56	0	10.33	0	95.9	1.998
	1722.1	1.55	0	10.33	0	95.9	1.998
	1735.5	1.55	0	10.33	0	95.9	1.998
	1746.9	1.53	0	10.33	0	95.9	1.998
	1789.1	1.54	0	10.33	0	95.9	1.998
	1802.5	1.54	0	10.33	0	95.9	1.998
	1815.8	1.51	0	10.33	0	95.9	1.998
	1859.9	1.52	0	10.33	0	95.9	1.998
	1861.8	1.51	0	10.33	0	95.9	1.998
	1875.2	1.51	0	10.33	0	95.9	1.998
	1936.4	1.53	0	10.33	0	95.9	1.998
	1940.2	1.50	0	10.33	0	95.9	1.998
	1947.9	1.50	0	10.33	0	95.9	1.998
	1991.9	1.49	0	10.33	0	95.9	1.998
	2003.4	1.52	0	10.33	0	95.9	1.998
	2014.9	1.50	0	10.33	0	95.9	1.998
Newman et al. (1982)†							
	370.5	6.78	0	0	0	95	2.000
	423.4	6.34	0	0	0	95	2.000
	466.9	5.90	0	0	0	95	2.000
	516.3	5.63	0	0	0	95	2.000
	573.3	5.19	0	0	0	95	2.000
	666.7	4.65	0	0	0	95	2.000
	771.7	4.15	0	0	0	95	2.000
	874.9	3.78	0	0	0	95	2.000
	972.5	3.46	0	0	0	95	2.000
	1083.6	3.17	0	0	0	95	2.000
	1181.2	2.90	0	0	0	95	2.000
	1273.2	2.70	0	0	0	95	2.000
	1478.3	2.32	0	0	0	95	2.000
	1681.7	2.11	0	0	0	95	2.000
	2077.1	1.91	0	0	0	95	2.000
	2232.6	1.91	0	0	0	95	2.000
	296.3	3.91	0	8.5	0	95	2.000
	294.3	3.81	0	8.5	0	95	2.000
	294.0	3.66	0	8.5	0	95	2.000
	419.9	3.47	0	8.5	0	95	2.000
	446.9	3.58	0	8.5	0	95	2.000
	967.5	2.36	0	8.5	0	95	2.000
	1088.6	2.39	0	8.5	0	95	2.000
	1220.7	2.02	0	8.5	0	95	2.000
	1594.9	1.67	0	8.5	0	95	2.000
	1806.1	1.59	0	8.5	0	95	2.000
	295.0	4.28	0	8.5	0	95	2.000
	298.6	4.12	0	8.5	0	95	2.000
	298.4	4.00	0	8.5	0	95	2.000
	327.3	4.23	0	8.5	0	95	2.000
	317.5	4.09	0	8.5	0	95	2.000
	317.3	3.95	0	8.5	0	95	2.000
	374.9	4.14	0	8.5	0	95	2.000
	361.3	3.97	0	8.5	0	95	2.000
	378.3	3.84	0	8.5	0	95	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	434.0	3.98	0	8.5	0	95	2.000
	430.0	3.82	0	8.5	0	95	2.000
	468.4	3.89	0	8.5	0	95	2.000
	473.9	3.72	0	8.5	0	95	2.000
	479.5	3.62	0	8.5	0	95	2.000
	571.5	3.58	0	8.5	0	95	2.000
	571.4	3.45	0	8.5	0	95	2.000
	571.3	3.34	0	8.5	0	95	2.000
	667.2	3.36	0	8.5	0	95	2.000
	684.3	3.22	0	8.5	0	95	2.000
	668.9	3.16	0	8.5	0	95	2.000
	776.3	3.08	0	8.5	0	95	2.000
	759.0	2.99	0	8.5	0	95	2.000
	762.4	2.65	0	8.5	0	95	2.000
	874.1	2.90	0	8.5	0	95	2.000
	870.0	2.74	0	8.5	0	95	2.000
	975.6	2.70	0	8.5	0	95	2.000
	977.4	2.56	0	8.5	0	95	2.000
	1035.1	2.65	0	8.5	0	95	2.000
	1081.2	2.60	0	8.5	0	95	2.000
	1077.1	2.45	0	8.5	0	95	2.000
	1165.5	2.42	0	8.5	0	95	2.000
	1175.0	2.37	0	8.5	0	95	2.000
	1265.1	2.25	0	8.5	0	95	2.000
	1284.3	2.21	0	8.5	0	95	2.000
	1280.6	2.29	0	8.5	0	95	2.000
	1458.9	2.04	0	8.5	0	95	2.000
	1487.7	2.04	0	8.5	0	95	2.000
	1481.8	1.94	0	8.5	0	95	2.000
	1660.4	1.88	0	8.5	0	95	2.000
	1679.5	1.79	0	8.5	0	95	2.000
	1694.9	1.77	0	8.5	0	95	2.000
	1860.0	1.75	0	8.5	0	95	2.000
	1888.8	1.70	0	8.5	0	95	2.000
	2055.7	1.58	0	8.5	0	95	2.000
	2076.8	1.57	0	8.5	0	95	2.000
	2076.9	1.64	0	8.5	0	95	2.000
	2238.2	1.69	0	8.5	0	95	2.000
	2255.5	1.72	0	8.5	0	95	2.000
Fukushima et al. (1983b)							
	695.3	4.63	0	0	20	95.9	2.000
	693.0	4.45	0	0	20	95.9	2.000
	705.8	4.46	0	0	20	95.9	2.000
	729.5	4.53	0	0	20	95.9	2.000
	731.6	4.44	0	0	20	95.9	2.000
	729.2	4.31	0	0	20	95.9	2.000
	765.6	4.22	0	0	20	95.9	2.000
	778.5	4.24	0	0	20	95.9	2.000
	789.2	4.24	0	0	20	95.9	2.000
	821.2	4.05	0	0	20	95.9	2.000
	831.9	4.05	0	0	20	95.9	2.000
	827.4	3.88	0	0	20	95.9	2.000
	855.3	3.90	0	0	20	95.9	2.000
	855.2	3.76	0	0	20	95.9	2.000
	881.0	3.87	0	0	20	95.9	2.000
	880.9	3.77	0	0	20	95.9	2.000
	893.8	3.78	0	0	20	95.9	2.000
	934.4	3.66	0	0	20	95.9	2.000
	934.3	3.58	0	0	20	95.9	2.000
	934.2	3.51	0	0	20	95.9	2.000
	974.9	3.42	0	0	20	95.9	2.000
	987.8	3.43	0	0	20	95.9	2.000
	1000.7	3.44	0	0	20	95.9	2.000
	1024.1	3.27	0	0	20	95.9	2.000
	1037.0	3.28	0	0	20	95.9	2.000
	1049.8	3.28	0	0	20	95.9	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1094.6	3.06	0	0	20	95.9	2.000
	1094.7	3.12	0	0	20	95.9	2.000
	1094.8	3.19	0	0	20	95.9	2.000
	1150.4	3.06	0	0	20	95.9	2.000
	1148.2	2.99	0	0	20	95.9	2.000
	1150.3	2.94	0	0	20	95.9	2.000
	1197.5	2.96	0	0	20	95.9	2.000
	1199.6	2.91	0	0	20	95.9	2.000
	1197.4	2.86	0	0	20	95.9	2.000
	1229.5	2.83	0	0	20	95.9	2.000
	1242.4	2.83	0	0	20	95.9	2.000
	1253.1	2.83	0	0	20	95.9	2.000
	1259.5	2.73	0	0	20	95.9	2.000
	1274.5	2.72	0	0	20	95.9	2.000
	1287.4	2.73	0	0	20	95.9	2.000
	1300.2	2.73	0	0	20	95.9	2.000
	1300.2	2.67	0	0	20	95.9	2.000
	1323.8	2.69	0	0	20	95.9	2.000
	1336.7	2.70	0	0	20	95.9	2.000
	1336.6	2.64	0	0	20	95.9	2.000
	1377.3	2.57	0	0	20	95.9	2.000
	1377.4	2.62	0	0	20	95.9	2.000
	1392.3	2.57	0	0	20	95.9	2.000
	1424.4	2.50	0	0	20	95.9	2.000
	1435.2	2.50	0	0	20	95.9	2.000
	1448.0	2.51	0	0	20	95.9	2.000
	1482.3	2.44	0	0	20	95.9	2.000
	1490.9	2.45	0	0	20	95.9	2.000
	1503.7	2.45	0	0	20	95.9	2.000
	1527.3	2.39	0	0	20	95.9	2.000
	1529.4	2.32	0	0	20	95.9	2.000
	1550.9	2.37	0	0	20	95.9	2.000
	1550.9	2.41	0	0	20	95.9	2.000
	1563.7	2.37	0	0	20	95.9	2.000
	1604.5	2.33	0	0	20	95.9	2.000
	1613.1	2.38	0	0	20	95.9	2.000
	1613.0	2.31	0	0	20	95.9	2.000
	1660.2	2.31	0	0	20	95.9	2.000
	1673.1	2.31	0	0	20	95.9	2.000
	1686.0	2.31	0	0	20	95.9	2.000
	1739.5	2.26	0	0	20	95.9	2.000
	1746.0	2.30	0	0	20	95.9	2.000
	1735.3	2.33	0	0	20	95.9	2.000
	1806.0	2.26	0	0	20	95.9	2.000
	1808.2	2.30	0	0	20	95.9	2.000
	1818.9	2.24	0	0	20	95.9	2.000
	688.4	4.64	0	0	20	95.9	2.000
	688.1	4.46	0	0	20	95.9	2.000
	699.3	4.47	0	0	20	95.9	2.000
	726.1	4.43	0	0	20	95.9	2.000
	724.1	4.53	0	0	20	95.9	2.000
	725.9	4.32	0	0	20	95.9	2.000
	763.8	4.23	0	0	20	95.9	2.000
	777.3	4.25	0	0	20	95.9	2.000
	788.5	4.25	0	0	20	95.9	2.000
	815.0	4.05	0	0	20	95.9	2.000
	826.2	4.06	0	0	20	95.9	2.000
	825.9	3.89	0	0	20	95.9	2.000
	843.7	3.81	0	0	20	95.9	2.000
	859.4	3.84	0	0	20	95.9	2.000
	881.9	3.89	0	0	20	95.9	2.000
	879.5	3.76	0	0	20	95.9	2.000
	892.9	3.77	0	0	20	95.9	2.000
	930.8	3.66	0	0	20	95.9	2.000
	932.9	3.59	0	0	20	95.9	2.000
	932.8	3.52	0	0	20	95.9	2.000
	975.2	3.43	0	0	20	95.9	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	986.5	3.44	0	0	20	95.9	2.000
	999.9	3.43	0	0	20	95.9	2.000
	1022.1	3.29	0	0	20	95.9	2.000
	1033.3	3.29	0	0	20	95.9	2.000
	1046.7	3.29	0	0	20	95.9	2.000
	1091.4	3.20	0	0	20	95.9	2.000
	1091.2	3.12	0	0	20	95.9	2.000
	1091.2	3.07	0	0	20	95.9	2.000
	1144.8	2.96	0	0	20	95.9	2.000
	1144.8	3.00	0	0	20	95.9	2.000
	1145.0	3.08	0	0	20	95.9	2.000
	1194.1	2.97	0	0	20	95.9	2.000
	1191.8	2.92	0	0	20	95.9	2.000
	1193.9	2.86	0	0	20	95.9	2.000
	1227.5	2.84	0	0	20	95.9	2.000
	1238.7	2.84	0	0	20	95.9	2.000
	1247.7	2.84	0	0	20	95.9	2.000
	1267.7	2.78	0	0	20	95.9	2.000
	1269.8	2.70	0	0	20	95.9	2.000
	1287.8	2.74	0	0	20	95.9	2.000
	1299.0	2.74	0	0	20	95.9	2.000
	1298.9	2.68	0	0	20	95.9	2.000
	1323.6	2.70	0	0	20	95.9	2.000
	1332.6	2.70	0	0	20	95.9	2.000
	1332.5	2.64	0	0	20	95.9	2.000
	1379.6	2.64	0	0	20	95.9	2.000
	1377.2	2.59	0	0	20	95.9	2.000
	1390.7	2.59	0	0	20	95.9	2.000
	1422.0	2.53	0	0	20	95.9	2.000
	1433.1	2.52	0	0	20	95.9	2.000
	1444.4	2.53	0	0	20	95.9	2.000
	1475.6	2.45	0	0	20	95.9	2.000
	1486.8	2.46	0	0	20	95.9	2.000
	1500.3	2.46	0	0	20	95.9	2.000
	1547.2	2.37	0	0	20	95.9	2.000
	1558.4	2.39	0	0	20	95.9	2.000
	1547.3	2.43	0	0	20	95.9	2.000
	1580.7	2.29	0	0	20	95.9	2.000
	1580.8	2.34	0	0	20	95.9	2.000
	1612.1	2.32	0	0	20	95.9	2.000
	1603.2	2.36	0	0	20	95.9	2.000
	1612.3	2.40	0	0	20	95.9	2.000
	1656.9	2.32	0	0	20	95.9	2.000
	1670.4	2.32	0	0	20	95.9	2.000
	1681.6	2.33	0	0	20	95.9	2.000
	1735.3	2.28	0	0	20	95.9	2.000
	1739.9	2.31	0	0	20	95.9	2.000
	1735.4	2.35	0	0	20	95.9	2.000
	1804.8	2.32	0	0	20	95.9	2.000
	1804.8	2.27	0	0	20	95.9	2.000
	1815.9	2.25	0	0	20	95.9	2.000
Fukushima et al. (1983a)							
	689.0	5.20	0	0	0	95.6	2.000
	689.0	5.09	0	0	0	95.6	2.000
	691.3	5.02	0	0	0	95.6	2.000
	726.3	5.00	0	0	0	95.6	2.000
	726.3	4.95	0	0	0	95.6	2.000
	726.3	4.77	0	0	0	95.6	2.000
	744.9	4.78	0	0	0	95.6	2.000
	758.9	4.77	0	0	0	95.6	2.000
	777.6	4.75	0	0	0	95.6	2.000
	777.6	4.65	0	0	0	95.6	2.000
	775.3	4.55	0	0	0	95.6	2.000
	814.9	4.38	0	0	0	95.6	2.000
	826.6	4.40	0	0	0	95.6	2.000
	840.6	4.40	0	0	0	95.6	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	882.6	4.26	0	0	0	95.6	2.000
	882.6	4.15	0	0	0	95.6	2.000
	882.6	4.10	0	0	0	95.6	2.000
	931.6	4.03	0	0	0	95.6	2.000
	931.6	3.96	0	0	0	95.6	2.000
	931.6	3.90	0	0	0	95.6	2.000
	985.2	3.81	0	0	0	95.6	2.000
	985.2	3.72	0	0	0	95.6	2.000
	999.2	3.73	0	0	0	95.6	2.000
	1036.5	3.67	0	0	0	95.6	2.000
	1036.5	3.60	0	0	0	95.6	2.000
	1038.9	3.52	0	0	0	95.6	2.000
	1078.5	3.48	0	0	0	95.6	2.000
	1090.2	3.48	0	0	0	95.6	2.000
	1092.5	3.31	0	0	0	95.6	2.000
	1122.9	3.27	0	0	0	95.6	2.000
	1122.9	3.34	0	0	0	95.6	2.000
	1148.5	3.34	0	0	0	95.6	2.000
	1148.5	3.26	0	0	0	95.6	2.000
	1160.2	3.27	0	0	0	95.6	2.000
	1199.8	3.20	0	0	0	95.6	2.000
	1199.8	3.15	0	0	0	95.6	2.000
	1199.8	3.07	0	0	0	95.6	2.000
	1244.2	3.00	0	0	0	95.6	2.000
	1253.5	3.00	0	0	0	95.6	2.000
	1241.8	3.13	0	0	0	95.6	2.000
	1302.5	2.97	0	0	0	95.6	2.000
	1302.5	2.91	0	0	0	95.6	2.000
	1302.5	2.86	0	0	0	95.6	2.000
	1335.1	2.75	0	0	0	95.6	2.000
	1337.5	2.81	0	0	0	95.6	2.000
	1335.1	2.91	0	0	0	95.6	2.000
	1381.8	2.82	0	0	0	95.6	2.000
	1381.8	2.70	0	0	0	95.6	2.000
	1395.8	2.71	0	0	0	95.6	2.000
	1426.1	2.66	0	0	0	95.6	2.000
	1437.8	2.67	0	0	0	95.6	2.000
	1449.5	2.67	0	0	0	95.6	2.000
	1491.4	2.63	0	0	0	95.6	2.000
	1491.4	2.57	0	0	0	95.6	2.000
	1491.4	2.51	0	0	0	95.6	2.000
	1549.8	2.46	0	0	0	95.6	2.000
	1549.8	2.54	0	0	0	95.6	2.000
	1563.8	2.47	0	0	0	95.6	2.000
	1610.4	2.42	0	0	0	95.6	2.000
	1610.4	2.50	0	0	0	95.6	2.000
	1624.4	2.42	0	0	0	95.6	2.000
	1659.4	2.32	0	0	0	95.6	2.000
	1671.1	2.34	0	0	0	95.6	2.000
	1685.1	2.33	0	0	0	95.6	2.000
	1722.4	2.27	0	0	0	95.6	2.000
	1736.4	2.26	0	0	0	95.6	2.000
	1748.1	2.27	0	0	0	95.6	2.000
	1797.0	2.22	0	0	0	95.6	2.000
	1806.4	2.26	0	0	0	95.6	2.000
	1813.4	2.21	0	0	0	95.6	2.000
	1857.7	2.18	0	0	0	95.6	2.000
	1871.7	2.19	0	0	0	95.6	2.000
	1862.4	2.26	0	0	0	95.6	2.000
	1934.7	2.21	0	0	0	95.6	2.000
	1946.3	2.22	0	0	0	95.6	2.000
	1939.3	2.29	0	0	0	95.6	2.000
	2004.7	2.27	0	0	0	95.6	2.000
	2002.3	2.34	0	0	0	95.6	2.000
	2016.3	2.28	0	0	0	95.6	2.000
	681.7	5.14	0	0	0	95.6	2.000
	681.6	5.07	0	0	0	95.6	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	681.5	4.96	0	0	0	95.6	2.000
	721.8	4.97	0	0	0	95.6	2.000
	721.7	4.76	0	0	0	95.6	2.000
	733.5	4.78	0	0	0	95.6	2.000
	750.2	4.79	0	0	0	95.6	2.000
	745.3	4.67	0	0	0	95.6	2.000
	757.1	4.59	0	0	0	95.6	2.000
	771.4	4.59	0	0	0	95.6	2.000
	783.2	4.60	0	0	0	95.6	2.000
	809.2	4.40	0	0	0	95.6	2.000
	823.4	4.41	0	0	0	95.6	2.000
	820.9	4.24	0	0	0	95.6	2.000
	880.0	4.02	0	0	0	95.6	2.000
	875.3	4.08	0	0	0	95.6	2.000
	877.8	4.20	0	0	0	95.6	2.000
	913.2	3.96	0	0	0	95.6	2.000
	927.4	3.96	0	0	0	95.6	2.000
	939.3	3.96	0	0	0	95.6	2.000
	979.5	3.82	0	0	0	95.6	2.000
	979.4	3.68	0	0	0	95.6	2.000
	991.3	3.68	0	0	0	95.6	2.000
	1019.7	3.54	0	0	0	95.6	2.000
	1031.5	3.56	0	0	0	95.6	2.000
	1043.4	3.56	0	0	0	95.6	2.000
	1086.0	3.48	0	0	0	95.6	2.000
	1086.0	3.42	0	0	0	95.6	2.000
	1085.9	3.31	0	0	0	95.6	2.000
	1107.3	3.30	0	0	0	95.6	2.000
	1119.1	3.31	0	0	0	95.6	2.000
	1140.5	3.29	0	0	0	95.6	2.000
	1142.8	3.20	0	0	0	95.6	2.000
	1157.0	3.21	0	0	0	95.6	2.000
	1176.0	3.15	0	0	0	95.6	2.000
	1190.2	3.16	0	0	0	95.6	2.000
	1190.1	3.07	0	0	0	95.6	2.000
	1237.6	3.08	0	0	0	95.6	2.000
	1237.5	3.00	0	0	0	95.6	2.000
	1237.5	2.93	0	0	0	95.6	2.000
	1282.6	2.89	0	0	0	95.6	2.000
	1294.4	2.90	0	0	0	95.6	2.000
	1308.7	2.90	0	0	0	95.6	2.000
	1332.4	2.92	0	0	0	95.6	2.000
	1332.3	2.80	0	0	0	95.6	2.000
	1332.3	2.74	0	0	0	95.6	2.000
	1377.4	2.78	0	0	0	95.6	2.000
	1375.0	2.69	0	0	0	95.6	2.000
	1389.2	2.70	0	0	0	95.6	2.000
	1429.5	2.58	0	0	0	95.6	2.000
	1424.7	2.63	0	0	0	95.6	2.000
	1431.9	2.68	0	0	0	95.6	2.000
	1486.4	2.58	0	0	0	95.6	2.000
	1488.7	2.51	0	0	0	95.6	2.000
	1486.3	2.45	0	0	0	95.6	2.000
	1543.2	2.42	0	0	0	95.6	2.000
	1543.3	2.48	0	0	0	95.6	2.000
	1557.5	2.41	0	0	0	95.6	2.000
	1604.8	2.31	0	0	0	95.6	2.000
	1602.5	2.37	0	0	0	95.6	2.000
	1602.6	2.44	0	0	0	95.6	2.000
	1664.2	2.32	0	0	0	95.6	2.000
	1664.1	2.27	0	0	0	95.6	2.000
	1673.6	2.22	0	0	0	95.6	2.000
	1716.3	2.27	0	0	0	95.6	2.000
	1730.6	2.29	0	0	0	95.6	2.000
	1728.2	2.22	0	0	0	95.6	2.000
	1785.1	2.23	0	0	0	95.6	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1799.4	2.24	0	0	0	95.6	2.000
	1811.2	2.24	0	0	0	95.6	2.000
	1863.4	2.26	0	0	0	95.6	2.000
	1861.0	2.19	0	0	0	95.6	2.000
	1875.2	2.18	0	0	0	95.6	2.000
	1922.7	2.20	0	0	0	95.6	2.000
	1934.6	2.24	0	0	0	95.6	2.000
	1934.5	2.14	0	0	0	95.6	2.000
	2010.5	2.15	0	0	0	95.6	2.000
	2001.0	2.20	0	0	0	95.6	2.000
	2001.0	2.25	0	0	0	95.6	2.000
	688.7	5.34	0	0	0	95.8	2.000
	690.7	5.21	0	0	0	95.8	2.000
	690.5	5.12	0	0	0	95.8	2.000
	721.6	4.99	0	0	0	95.8	2.000
	723.5	4.82	0	0	0	95.8	2.000
	735.7	4.83	0	0	0	95.8	2.000
	742.7	4.74	0	0	0	95.8	2.000
	757.3	4.75	0	0	0	95.8	2.000
	774.2	4.69	0	0	0	95.8	2.000
	773.8	4.58	0	0	0	95.8	2.000
	773.6	4.49	0	0	0	95.8	2.000
	812.0	4.33	0	0	0	95.8	2.000
	824.2	4.35	0	0	0	95.8	2.000
	841.3	4.36	0	0	0	95.8	2.000
	882.2	4.22	0	0	0	95.8	2.000
	881.8	4.08	0	0	0	95.8	2.000
	896.4	4.09	0	0	0	95.8	2.000
	930.2	3.99	0	0	0	95.8	2.000
	929.7	3.82	0	0	0	95.8	2.000
	941.9	3.83	0	0	0	95.8	2.000
	983.2	3.78	0	0	0	95.8	2.000
	983.4	3.86	0	0	0	95.8	2.000
	985.2	3.65	0	0	0	95.8	2.000
	1023.9	3.57	0	0	0	95.8	2.000
	1036.1	3.58	0	0	0	95.8	2.000
	1048.3	3.59	0	0	0	95.8	2.000
	1089.5	3.52	0	0	0	95.8	2.000
	1089.4	3.47	0	0	0	95.8	2.000
	1089.1	3.39	0	0	0	95.8	2.000
	1113.2	3.30	0	0	0	95.8	2.000
	1113.6	3.41	0	0	0	95.8	2.000
	1132.8	3.32	0	0	0	95.8	2.000
	1147.4	3.33	0	0	0	95.8	2.000
	1144.6	3.21	0	0	0	95.8	2.000
	1193.3	3.19	0	0	0	95.8	2.000
	1193.1	3.11	0	0	0	95.8	2.000
	1192.9	3.07	0	0	0	95.8	2.000
	1239.2	3.06	0	0	0	95.8	2.000
	1239.0	2.98	0	0	0	95.8	2.000
	1238.8	2.94	0	0	0	95.8	2.000
	1294.8	2.89	0	0	0	95.8	2.000
	1309.4	2.90	0	0	0	95.8	2.000
	1297.6	3.01	0	0	0	95.8	2.000
	1377.2	2.77	0	0	0	95.8	2.000
	1377.4	2.82	0	0	0	95.8	2.000
	1377.6	2.88	0	0	0	95.8	2.000
	1435.4	2.65	0	0	0	95.8	2.000
	1433.1	2.72	0	0	0	95.8	2.000
	1433.3	2.76	0	0	0	95.8	2.000
	1479.3	2.67	0	0	0	95.8	2.000
	1491.5	2.68	0	0	0	95.8	2.000
	1506.2	2.68	0	0	0	95.8	2.000
	1549.8	2.61	0	0	0	95.8	2.000
	1549.5	2.52	0	0	0	95.8	2.000
	1561.7	2.52	0	0	0	95.8	2.000
	1610.4	2.50	0	0	0	95.8	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1615.1	2.45	0	0	0	95.8	2.000
	1605.3	2.43	0	0	0	95.8	2.000
	1670.9	2.37	0	0	0	95.8	2.000
	1663.7	2.41	0	0	0	95.8	2.000
	1668.8	2.48	0	0	0	95.8	2.000
	1731.8	2.37	0	0	0	95.8	2.000
	1733.9	2.25	0	0	0	95.8	2.000
	1746.1	2.26	0	0	0	95.8	2.000
	1804.3	2.17	0	0	0	95.8	2.000
	1804.5	2.23	0	0	0	95.8	2.000
	1802.4	2.35	0	0	0	95.8	2.000
	1863.0	2.27	0	0	0	95.8	2.000
	1860.4	2.18	0	0	0	95.8	2.000
	1875.0	2.19	0	0	0	95.8	2.000
	1940.6	2.16	0	0	0	95.8	2.000
	1940.9	2.24	0	0	0	95.8	2.000
	1926.2	2.23	0	0	0	95.8	2.000
	2003.9	2.16	0	0	0	95.8	2.000
	2004.1	2.21	0	0	0	95.8	2.000
	2004.2	2.27	0	0	0	95.8	2.000
Fukushima et al. (1983c)							
	687.6	4.92	0	0	100	96.3	2.000
	687.7	4.78	0	0	100	96.3	2.000
	685.9	4.67	0	0	100	96.3	2.000
	723.4	4.67	0	0	100	96.3	2.000
	723.5	4.44	0	0	100	96.3	2.000
	732.5	4.45	0	0	100	96.3	2.000
	764.7	4.27	0	0	100	96.3	2.000
	773.6	4.29	0	0	100	96.3	2.000
	784.3	4.29	0	0	100	96.3	2.000
	814.8	4.14	0	0	100	96.3	2.000
	823.7	4.15	0	0	100	96.3	2.000
	823.8	3.98	0	0	100	96.3	2.000
	850.5	4.03	0	0	100	96.3	2.000
	850.6	3.83	0	0	100	96.3	2.000
	881.0	3.71	0	0	100	96.3	2.000
	879.2	3.78	0	0	100	96.3	2.000
	880.9	3.91	0	0	100	96.3	2.000
	929.3	3.57	0	0	100	96.3	2.000
	922.1	3.72	0	0	100	96.3	2.000
	931.0	3.73	0	0	100	96.3	2.000
	975.8	3.48	0	0	100	96.3	2.000
	986.5	3.47	0	0	100	96.3	2.000
	995.4	3.47	0	0	100	96.3	2.000
	1032.9	3.38	0	0	100	96.3	2.000
	1034.8	3.31	0	0	100	96.3	2.000
	1034.8	3.26	0	0	100	96.3	2.000
	1061.6	3.21	0	0	100	96.3	2.000
	1059.8	3.34	0	0	100	96.3	2.000
	1079.4	3.26	0	0	100	96.3	2.000
	1088.4	3.26	0	0	100	96.3	2.000
	1090.2	3.10	0	0	100	96.3	2.000
	1145.6	2.98	0	0	100	96.3	2.000
	1145.6	3.06	0	0	100	96.3	2.000
	1145.6	3.10	0	0	100	96.3	2.000
	1183.1	2.98	0	0	100	96.3	2.000
	1193.8	2.97	0	0	100	96.3	2.000
	1193.9	2.88	0	0	100	96.3	2.000
	1240.3	2.89	0	0	100	96.3	2.000
	1240.3	2.79	0	0	100	96.3	2.000
	1249.3	2.79	0	0	100	96.3	2.000
	1265.3	2.86	0	0	100	96.3	2.000
	1274.2	2.86	0	0	100	96.3	2.000
	1299.3	2.80	0	0	100	96.3	2.000
	1301.1	2.72	0	0	100	96.3	2.000
	1299.3	2.66	0	0	100	96.3	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1323.1	2.75	0	0	100	96.3	2.000
	1332.0	2.76	0	0	100	96.3	2.000
	1332.1	2.63	0	0	100	96.3	2.000
	1369.3	2.62	0	0	100	96.3	2.000
	1379.7	2.63	0	0	100	96.3	2.000
	1390.1	2.62	0	0	100	96.3	2.000
	1433.3	2.62	0	0	100	96.3	2.000
	1431.8	2.54	0	0	100	96.3	2.000
	1433.3	2.48	0	0	100	96.3	2.000
	1489.9	2.42	0	0	100	96.3	2.000
	1491.4	2.49	0	0	100	96.3	2.000
	1500.3	2.42	0	0	100	96.3	2.000
Otter and Damien (1983)							
	3183.2	6.80	0	0	0	95	2.000
	3273.2	8.24	0	0	0	95	2.000
	3188.2	7.33	0	0	0	95	2.000
	3273.2	8.07	0	0	0	95	2.000
	3133.2	8.42	0	0	0	95	2.000
	3153.2	8.87	0	0	0	95	2.000
	3173.2	9.42	0	0	0	95	2.000
	3193.2	11.06	0	0	0	95	2.000
Bonnerot (1988)							
	973.0	3.83	0	0	0.0	98.1	2.000
	1073.0	3.34	0	0	0.0	98.1	2.000
	1173.0	3.29	0	0	0.0	98.1	2.000
	1273.0	3.06	0	0	0.0	98.1	2.000
	1373.0	2.86	0	0	0.0	98.1	2.000
	1473.0	2.71	0	0	0.0	98.1	2.000
	1573.0	2.61	0	0	0.0	98.1	2.000
	1673.0	2.52	0	0	0.0	98.1	2.000
	1773.0	2.46	0	0	0.0	98.1	2.000
	1873.0	2.43	0	0	0.0	98.1	2.000
	1973.0	2.43	0	0	0.0	98.1	2.000
	2073.0	2.47	0	0	0.0	98.1	2.000
	2173.0	2.52	0	0	0.0	98.1	2.000
	2273.0	2.61	0	0	0.0	98.1	2.000
	2373.0	2.71	0	0	0.0	98.1	2.000
	2473.0	2.81	0	0	0.0	98.1	2.000
	973.0	2.42	0	0	5.0	93.9	1.978
	1073.0	2.28	0	0	5.0	93.9	1.978
	1173.0	2.16	0	0	5.0	93.9	1.978
	1273.0	2.06	0	0	5.0	93.9	1.978
	1373.0	1.96	0	0	5.0	93.9	1.978
	1473.0	1.91	0	0	5.0	93.9	1.978
	1573.0	1.85	0	0	5.0	93.9	1.978
	1673.0	1.81	0	0	5.0	93.9	1.978
	1773.0	1.78	0	0	5.0	93.9	1.978
	1873.0	1.76	0	0	5.0	93.9	1.978
	1973.0	1.76	0	0	5.0	93.9	1.978
	2073.0	1.76	0	0	5.0	93.9	1.978
	2173.0	1.78	0	0	5.0	93.9	1.978
	2273.0	1.81	0	0	5.0	93.9	1.978
	2373.0	1.86	0	0	5.0	93.9	1.978
	2473.0	1.93	0	0	5.0	93.9	1.978
	973.0	2.24	0	0	7.77	93.9	1.985
	1073.0	2.11	0	0	7.77	93.9	1.985
	1173.0	1.98	0	0	7.77	93.9	1.985
	1273.0	1.88	0	0	7.77	93.9	1.985
	1373.0	1.77	0	0	7.77	93.9	1.985
	1473.0	1.71	0	0	7.77	93.9	1.985
	1573.0	1.63	0	0	7.77	93.9	1.985
	1673.0	1.61	0	0	7.77	93.9	1.985
	1773.0	1.59	0	0	7.77	93.9	1.985
	1873.0	1.59	0	0	7.77	93.9	1.985
	1973.0	1.61	0	0	7.77	93.9	1.985
	2073.0	1.64	0	0	7.77	93.9	1.985

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	2173.0	1.68	0	0	7.77	93.9	1.985
	2273.0	1.73	0	0	7.77	93.9	1.985
	2373.0	1.79	0	0	7.77	93.9	1.985
	2473.0	1.87	0	0	7.77	93.9	1.985
	973.0	2.31	0	0	10.0	94.2	1.983
	1073.0	2.15	0	0	10.0	94.2	1.983
	1173.0	2.02	0	0	10.0	94.2	1.983
	1273.0	1.92	0	0	10.0	94.2	1.983
	1373.0	1.81	0	0	10.0	94.2	1.983
	1473.0	1.71	0	0	10.0	94.2	1.983
	1573.0	1.68	0	0	10.0	94.2	1.983
	1673.0	1.65	0	0	10.0	94.2	1.983
	1773.0	1.64	0	0	10.0	94.2	1.983
	1873.0	1.64	0	0	10.0	94.2	1.983
	1973.0	1.66	0	0	10.0	94.2	1.983
	2073.0	1.68	0	0	10.0	94.2	1.983
	2173.0	1.72	0	0	10.0	94.2	1.983
	2273.0	1.78	0	0	10.0	94.2	1.983
	2373.0	1.85	0	0	10.0	94.2	1.983
	2473.0	1.91	0	0	10.0	94.2	1.983
	973.0	2.54	0	0	14.05	94.7	1.979
	1073.0	2.37	0	0	14.05	94.7	1.979
	1173.0	2.25	0	0	14.05	94.7	1.979
	1273.0	2.14	0	0	14.05	94.7	1.979
	1373.0	2.04	0	0	14.05	94.7	1.979
	1473.0	1.97	0	0	14.05	94.7	1.979
	1573.0	1.91	0	0	14.05	94.7	1.979
	1673.0	1.87	0	0	14.05	94.7	1.979
	1773.0	1.84	0	0	14.05	94.7	1.979
	1873.0	1.82	0	0	14.05	94.7	1.979
	1973.0	1.81	0	0	14.05	94.7	1.979
	2073.0	1.81	0	0	14.05	94.7	1.979
	2173.0	1.83	0	0	14.05	94.7	1.979
	2273.0	1.87	0	0	14.05	94.7	1.979
	2373.0	1.92	0	0	14.05	94.7	1.979
	2473.0	1.97	0	0	14.05	94.7	1.979
	973.0	2.63	0	0	14.98	96.3	1.982
	1073.0	2.46	0	0	14.98	96.3	1.982
	1173.0	2.28	0	0	14.98	96.3	1.982
	1273.0	2.19	0	0	14.98	96.3	1.982
	1373.0	2.11	0	0	14.98	96.3	1.982
	1473.0	2.05	0	0	14.98	96.3	1.982
	1573.0	2.01	0	0	14.98	96.3	1.982
	1673.0	1.99	0	0	14.98	96.3	1.982
	1773.0	1.98	0	0	14.98	96.3	1.982
	1873.0	1.98	0	0	14.98	96.3	1.982
	1973.0	2.01	0	0	14.98	96.3	1.982
	2073.0	2.03	0	0	14.98	96.3	1.982
	2173.0	2.07	0	0	14.98	96.3	1.982
	2273.0	2.12	0	0	14.98	96.3	1.982
	2373.0	2.19	0	0	14.98	96.3	1.982
	2473.0	2.26	0	0	14.98	96.3	1.982
	973.0	2.64	0	0	15.16	96.8	1.980
	1073.0	2.46	0	0	15.16	96.8	1.980
	1173.0	2.28	0	0	15.16	96.8	1.980
	1273.0	2.19	0	0	15.16	96.8	1.980
	1373.0	2.11	0	0	15.16	96.8	1.980
	1473.0	2.05	0	0	15.16	96.8	1.980
	1573.0	2.01	0	0	15.16	96.8	1.980
	1673.0	1.99	0	0	15.16	96.8	1.980
	1773.0	1.98	0	0	15.16	96.8	1.980
	1873.0	1.99	0	0	15.16	96.8	1.980
	1973.0	2.01	0	0	15.16	96.8	1.980
	2073.0	2.03	0	0	15.16	96.8	1.980
	2173.0	2.07	0	0	15.16	96.8	1.980
	2273.0	2.12	0	0	15.16	96.8	1.980
	2373.0	2.19	0	0	15.16	96.8	1.980

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	2473.0	2.26	0	0	15.16	96.8	1.980
	973.0	1.99	0	0	20.0	90.1	1.980
	1073.0	1.88	0	0	20.0	90.1	1.980
	1173.0	1.77	0	0	20.0	90.1	1.980
	1273.0	1.68	0	0	20.0	90.1	1.980
	1373.0	1.61	0	0	20.0	90.1	1.980
	1473.0	1.56	0	0	20.0	90.1	1.980
	1573.0	1.52	0	0	20.0	90.1	1.980
	1673.0	1.51	0	0	20.0	90.1	1.980
	1773.0	1.49	0	0	20.0	90.1	1.980
	1873.0	1.49	0	0	20.0	90.1	1.980
	1973.0	1.51	0	0	20.0	90.1	1.980
	2073.0	1.52	0	0	20.0	90.1	1.980
	2173.0	1.54	0	0	20.0	90.1	1.980
	2273.0	1.59	0	0	20.0	90.1	1.980
	2373.0	1.64	0	0	20.0	90.1	1.980
	2473.0	1.68	0	0	20.0	90.1	1.980
	973.0	2.38	0	0	21.57	95.5	1.976
	1073.0	2.21	0	0	21.57	95.5	1.976
	1173.0	2.08	0	0	21.57	95.5	1.976
	1273.0	1.98	0	0	21.57	95.5	1.976
	1373.0	1.91	0	0	21.57	95.5	1.976
	1473.0	1.85	0	0	21.57	95.5	1.976
	1573.0	1.83	0	0	21.57	95.5	1.976
	1673.0	1.81	0	0	21.57	95.5	1.976
	1773.0	1.81	0	0	21.57	95.5	1.976
	1873.0	1.83	0	0	21.57	95.5	1.976
	1973.0	1.86	0	0	21.57	95.5	1.976
	2073.0	1.91	0	0	21.57	95.5	1.976
	2173.0	1.95	0	0	21.57	95.5	1.976
	2273.0	2.01	0	0	21.57	95.5	1.976
	2373.0	2.07	0	0	21.57	95.5	1.976
	2473.0	2.14	0	0	21.57	95.5	1.976
	973.0	2.53	0	0	21.79	96.2	1.984
	1073.0	2.36	0	0	21.79	96.2	1.984
	1173.0	2.23	0	0	21.79	96.2	1.984
	1273.0	2.12	0	0	21.79	96.2	1.984
	1373.0	2.04	0	0	21.79	96.2	1.984
	1473.0	1.99	0	0	21.79	96.2	1.984
	1573.0	1.95	0	0	21.79	96.2	1.984
	1673.0	1.92	0	0	21.79	96.2	1.984
	1773.0	1.91	0	0	21.79	96.2	1.984
	1873.0	1.91	0	0	21.79	96.2	1.984
	1973.0	1.92	0	0	21.79	96.2	1.984
	2073.0	1.95	0	0	21.79	96.2	1.984
	2173.0	1.99	0	0	21.79	96.2	1.984
	2273.0	2.04	0	0	21.79	96.2	1.984
	2373.0	2.11	0	0	21.79	96.2	1.984
	2473.0	2.17	0	0	21.79	96.2	1.984
	973.0	2.82	0	0	23.6	94.1	1.990
	1073.0	2.63	0	0	23.6	94.1	1.990
	1173.0	2.45	0	0	23.6	94.1	1.990
	1273.0	2.31	0	0	23.6	94.1	1.990
	1373.0	2.18	0	0	23.6	94.1	1.990
	1473.0	2.07	0	0	23.6	94.1	1.990
	1573.0	1.99	0	0	23.6	94.1	1.990
	1673.0	1.94	0	0	23.6	94.1	1.990
	1773.0	1.92	0	0	23.6	94.1	1.990
	1873.0	1.91	0	0	23.6	94.1	1.990
	1973.0	1.92	0	0	23.6	94.1	1.990
	2073.0	1.93	0	0	23.6	94.1	1.990
	2173.0	1.97	0	0	23.6	94.1	1.990
	2273.0	2.01	0	0	23.6	94.1	1.990
	2373.0	2.07	0	0	23.6	94.1	1.990
	2473.0	2.13	0	0	23.6	94.1	1.990
	973.0	2.24	0	0	28.18	94.6	1.967

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1073.0	2.12	0	0	28.18	94.6	1.967
	1173.0	2.01	0	0	28.18	94.6	1.967
	1273.0	1.92	0	0	28.18	94.6	1.967
	1373.0	1.84	0	0	28.18	94.6	1.967
	1473.0	1.77	0	0	28.18	94.6	1.967
	1573.0	1.73	0	0	28.18	94.6	1.967
	1673.0	1.71	0	0	28.18	94.6	1.967
	1773.0	1.71	0	0	28.18	94.6	1.967
	1873.0	1.72	0	0	28.18	94.6	1.967
	1973.0	1.75	0	0	28.18	94.6	1.967
	2073.0	1.77	0	0	28.18	94.6	1.967
	2173.0	1.81	0	0	28.18	94.6	1.967
	2273.0	1.86	0	0	28.18	94.6	1.967
	2373.0	1.92	0	0	28.18	94.6	1.967
	2473.0	1.98	0	0	28.18	94.6	1.967
	973.0	2.37	0	0	29.62	93.0	1.978
	1073.0	2.17	0	0	29.62	93.0	1.978
	1173.0	2.04	0	0	29.62	93.0	1.978
	1273.0	1.95	0	0	29.62	93.0	1.978
	1373.0	1.88	0	0	29.62	93.0	1.978
	1473.0	1.83	0	0	29.62	93.0	1.978
	1573.0	1.79	0	0	29.62	93.0	1.978
	1673.0	1.78	0	0	29.62	93.0	1.978
	1773.0	1.77	0	0	29.62	93.0	1.978
	1873.0	1.78	0	0	29.62	93.0	1.978
	1973.0	1.81	0	0	29.62	93.0	1.978
	2073.0	1.82	0	0	29.62	93.0	1.978
	2173.0	1.86	0	0	29.62	93.0	1.978
	2273.0	1.91	0	0	29.62	93.0	1.978
	2373.0	1.96	0	0	29.62	93.0	1.978
	2473.0	2.02	0	0	29.62	93.0	1.978
	973.0	2.44	0	0	100.0	92.9	1.983
	1073.0	2.27	0	0	100.0	92.9	1.983
	1173.0	2.12	0	0	100.0	92.9	1.983
	1273.0	1.98	0	0	100.0	92.9	1.983
	1373.0	1.87	0	0	100.0	92.9	1.983
	1473.0	1.76	0	0	100.0	92.9	1.983
	1573.0	1.68	0	0	100.0	92.9	1.983
	1673.0	1.58	0	0	100.0	92.9	1.983
	1773.0	1.53	0	0	100.0	92.9	1.983
	1873.0	1.47	0	0	100.0	92.9	1.983
	1973.0	1.41	0	0	100.0	92.9	1.983
	2073.0	1.36	0	0	100.0	92.9	1.983
	2173.0	1.31	0	0	100.0	92.9	1.983
	2273.0	1.27	0	0	100.0	92.9	1.983
	2373.0	1.23	0	0	100.0	92.9	1.983
	2473.0	1.21	0	0	100.0	92.9	1.983
	973.0	2.94	0	0	17.1	97.1	1.986
	1073.0	2.75	0	0	17.1	97.1	1.986
	1173.0	2.61	0	0	17.1	97.1	1.986
	1273.0	2.46	0	0	17.1	97.1	1.986
	1373.0	2.33	0	0	17.1	97.1	1.986
	1473.0	2.23	0	0	17.1	97.1	1.986
	1573.0	2.16	0	0	17.1	97.1	1.986
	1673.0	2.09	0	0	17.1	97.1	1.986
	1773.0	2.05	0	0	17.1	97.1	1.986
	1873.0	2.02	0	0	17.1	97.1	1.986
	1973.0	2.03	0	0	17.1	97.1	1.986
	2073.0	2.05	0	0	17.1	97.1	1.986
	2173.0	2.11	0	0	17.1	97.1	1.986
	2273.0	2.14	0	0	17.1	97.1	1.986
	2373.0	2.31	0	0	17.1	97.1	1.986
	2473.0	2.28	0	0	17.1	97.1	1.986
	973.0	2.41	0	0	20.0	95.3	1.974
	1073.0	2.24	0	0	20.0	95.3	1.974
	1173.0	2.11	0	0	20.0	95.3	1.974
	1273.0	2.01	0	0	20.0	95.3	1.974

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1373.0	1.93	0	0	20.0	95.3	1.974
	1473.0	1.87	0	0	20.0	95.3	1.974
	1573.0	1.83	0	0	20.0	95.3	1.974
	1673.0	1.81	0	0	20.0	95.3	1.974
	1773.0	1.81	0	0	20.0	95.3	1.974
	1873.0	1.81	0	0	20.0	95.3	1.974
	1973.0	1.83	0	0	20.0	95.3	1.974
	2073.0	1.80	0	0	20.0	95.3	1.974
	2173.0	1.92	0	0	20.0	95.3	1.974
	2273.0	1.99	0	0	20.0	95.3	1.974
	2373.0	2.05	0	0	20.0	95.3	1.974
	2473.0	2.13	0	0	20.0	95.3	1.974
Sengupta and Ganguly (1989)							
	975.3	4.91	0	0	0	91.5	2.000
	1071.9	4.38	0	0	0	91.5	2.000
	1164.3	3.96	0	0	0	91.5	2.000
	1272.0	3.66	0	0	0	91.5	2.000
	1379.8	3.38	0	0	0	91.5	2.000
	1476.8	3.24	0	0	0	91.5	2.000
	1580.5	3.23	0	0	0	91.5	2.000
	1677.6	3.13	0	0	0	91.5	2.000
	1774.7	3.02	0	0	0	91.5	2.000
	1871.8	2.85	0	0	0	91.5	2.000
	896.3	5.42	0	0	0	91.5	2.000
	997.6	4.77	0	0	0	91.5	2.000
	1102.0	4.23	0	0	0	91.5	2.000
	1198.4	3.88	0	0	0	91.5	2.000
	1301.2	3.60	0	0	0	91.5	2.000
	1399.2	3.40	0	0	0	91.5	2.000
	1498.8	3.26	0	0	0	91.5	2.000
	1601.6	3.19	0	0	0	91.5	2.000
	1699.6	3.10	0	0	0	91.5	2.000
	1800.8	2.97	0	0	0	91.5	2.000
	1898.8	2.86	0	0	0	91.5	2.000
	999.2	5.30	0	0	0	91.5	2.000
	1098.8	5.10	0	0	0	91.5	2.000
	1203.3	4.56	0	0	0	91.5	2.000
	1299.6	4.25	0	0	0	91.5	2.000
	1402.4	3.96	0	0	0	91.5	2.000
	1503.7	3.73	0	0	0	91.5	2.000
	1601.6	3.54	0	0	0	91.5	2.000
	1699.6	3.41	0	0	0	91.5	2.000
	1800.8	3.33	0	0	0	91.5	2.000
	923.4	5.43	0	0	4	91	1.997
	1070.5	3.61	0	0	4	91	1.997
	1170.3	3.31	0	0	4	91	1.997
	1272.0	2.81	0	0	4	91	1.997
	1373.7	2.25	0	0	4	91	1.997
	1475.3	2.37	0	0	4	91	1.997
	1575.2	2.38	0	0	4	91	1.997
	1774.9	2.12	0	0	4	91	1.997
	1869.3	2.18	0	0	4	91	1.997
	1675.0	2.92	0	0	4	91	1.997
Hirai (1990)†							
	285	8.50	0	0	0	96.76	2.001
	386	7.89	0	0	0	96.76	2.001
	485	6.88	0	0	0	96.76	2.001
	596	5.89	0	0	0	96.76	2.001
	695	5.14	0	0	0	96.76	2.001
	791	4.58	0	0	0	96.76	2.001
	892	4.09	0	0	0	96.76	2.001
	983	3.74	0	0	0	96.76	2.001
	1075	3.48	0	0	0	96.76	2.001
	1171	3.17	0	0	0	96.76	2.001
	1264	3.00	0	0	0	96.76	2.001
	1360	2.75	0	0	0	96.76	2.001

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1458	2.60	0	0	0	96.76	2.001
	1570	2.40	0	0	0	96.76	2.001
	1606	2.37	0	0	0	96.76	2.001
	287	8.19	0	0	0	96.76	2.001
	470	6.95	0	0	0	96.76	2.001
	681	5.22	0	0	0	96.76	2.001
	885	4.12	0	0	0	96.76	2.001
	1081	3.45	0	0	0	96.76	2.001
	1273	3.00	0	0	0	96.76	2.001
	1491	2.54	0	0	0	96.76	2.001
	1684	2.33	0	0	0	96.76	2.001
	1861	2.16	0	0	0	96.76	2.001
	2011	2.19	0	0	0	96.76	2.001
	294	7.91	0	0	0	96.76	2.001
	484	6.96	0	0	0	96.76	2.001
	688	5.26	0	0	0	96.76	2.001
	878	4.28	0	0	0	96.76	2.001
	1077	3.51	0	0	0	96.76	2.001
	1278	3.00	0	0	0	96.76	2.001
	1479	2.58	0	0	0	96.76	2.001
	1617	2.38	0	0	0	96.76	2.001
	363	8.37	0	0	0	96.76	2.001
	591	6.43	0	0	0	96.76	2.001
	779	4.86	0	0	0	96.76	2.001
	978	3.94	0	0	0	96.76	2.001
	1176	3.24	0	0	0	96.76	2.001
	1376	2.75	0	0	0	96.76	2.001
	295	8.04	0	0	0	96.76	2.001
	710	5.12	0	0	0	96.76	2.001
	989	3.84	0	0	0	96.76	2.001
	1256	3.03	0	0	0	96.76	2.001
	1533	2.59	0	0	0	96.76	2.001
	1789	2.30	0	0	0	96.76	2.001
	2017	2.34	0	0	0	96.76	2.001
	295	7.99	0	0	0	96.77	2.001
	473	7.28	0	0	0	96.77	2.001
	683	5.41	0	0	0	96.77	2.001
	881	4.25	0	0	0	96.77	2.001
	1076	3.48	0	0	0	96.77	2.001
	1277	2.97	0	0	0	96.77	2.001
	1468	2.54	0	0	0	96.77	2.001
	1616	2.31	0	0	0	96.77	2.001
	288	9.58	0	0	0	96.77	2.001
	691	5.51	0	0	0	96.77	2.001
	1089	3.52	0	0	0	96.77	2.001
	1498	2.58	0	0	0	96.77	2.001
	1883	2.10	0	0	0	96.77	2.001
	1995	2.10	0	0	0	96.77	2.001
	294	7.71	0	0	0	96.77	2.001
	375	7.67	0	0	0	96.77	2.001
	465	6.93	0	0	0	96.77	2.001
	579	5.95	0	0	0	96.77	2.001
	688	5.17	0	0	0	96.77	2.001
	789	4.62	0	0	0	96.77	2.001
	887	4.25	0	0	0	96.77	2.001
	982	3.81	0	0	0	96.77	2.001
	1077	3.48	0	0	0	96.77	2.001
	1175	3.21	0	0	0	96.77	2.001
	1279	3.03	0	0	0	96.77	2.001
	1369	2.82	0	0	0	96.77	2.001
	1478	2.58	0	0	0	96.77	2.001
	1570	2.46	0	0	0	96.77	2.001
	1616	2.38	0	0	0	96.77	2.001
	287	8.46	0	0	0	96.77	2.001
	686	5.04	0	0	0	96.77	2.001
	1098	3.42	0	0	0	96.77	2.001
	1513	2.62	0	0	0	96.77	2.001

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1898	2.22	0	0	0	96.77	2.001
	2006	2.15	0	0	0	96.77	2.001
	294	3.84	0	10	0	96.64	2.000
	466	3.71	0	10	0	96.64	2.000
	681	3.28	0	10	0	96.64	2.000
	885	3.00	0	10	0	96.64	2.000
	1081	2.77	0	10	0	96.64	2.000
	1274	2.58	0	10	0	96.64	2.000
	1493	2.36	0	10	0	96.64	2.000
	1686	2.25	0	10	0	96.64	2.000
	1857	2.15	0	10	0	96.64	2.000
	2023	2.10	0	10	0	96.64	2.000
	291	4.02	0	10	0	98.53	1.995
	469	3.82	0	10	0	98.53	1.995
	684	3.44	0	10	0	98.53	1.995
	890	3.16	0	10	0	98.53	1.995
	1088	2.89	0	10	0	98.53	1.995
	1282	2.67	0	10	0	98.53	1.995
	1498	2.48	0	10	0	98.53	1.995
	1686	2.33	0	10	0	98.53	1.995
	1862	2.23	0	10	0	98.53	1.995
	2000	2.24	0	10	0	98.53	1.995
	286	3.34	0	10	0	93.7	1.995
	689	3.01	0	10	0	93.7	1.995
	1088	2.53	0	10	0	93.7	1.995
	1498	2.19	0	10	0	93.7	1.995
	1876	2.02	0	10	0	93.7	1.995
	1989	1.98	0	10	0	93.7	1.995
	287	3.79	0	10	0	96.65	1.995
	551	3.39	0	10	0	96.65	1.995
	765	3.08	0	10	0	96.65	1.995
	976	2.80	0	10	0	96.65	1.995
	1185	2.60	0	10	0	96.65	1.995
	1331	2.46	0	10	0	96.65	1.995
	1553	2.28	0	10	0	96.65	1.995
	1601	2.26	0	10	0	96.65	1.995
	1788	2.15	0	10	0	96.65	1.995
	595	3.34	0	10	0	96.65	1.995
	822	3.01	0	10	0	96.65	1.995
	1032	2.76	0	10	0	96.65	1.995
	1234	2.57	0	10	0	96.65	1.995
	1380	2.44	0	10	0	96.65	1.995
	1599	2.29	0	10	0	96.65	1.995
	289	2.95	0	10	0	94.97	1.998
	689	2.14	0	10	0	94.97	1.998
	893	1.99	0	10	0	94.97	1.998
	1089	1.90	0	10	0	94.97	1.998
	1282	1.77	0	10	0	94.97	1.998
	1496	1.77	0	10	0	94.97	1.998
	1683	1.97	0	10	0	94.97	1.998
	478	3.21	0	10	0	94.97	1.998
	1088	2.47	0	10	0	94.97	1.998
	1859	2.08	0	10	0	94.97	1.998
	1991	2.04	0	10	0	94.97	1.998
	288	2.94	0	10	0	94.97	1.998
	692	2.26	0	10	0	94.97	1.998
	1091	1.99	0	10	0	94.97	1.998
	1285	1.83	0	10	0	94.97	1.998
	893	2.11	0	10	0	94.97	1.998
	1710	2.12	0	10	0	94.97	1.998
	1863	2.08	0	10	0	94.97	1.998
	1990	2.08	0	10	0	94.97	1.998
	1518	2.20	0	10	0	94.97	1.998
	1000	2.70	0	10	0	94.97	1.998
Hirai and Ishimoto (1991)							
	367.0	7.97	0	0	0	95	2.001

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	289.5	7.81	0	0	0	95	2.001
	300.7	7.64	0	0	0	95	2.001
	300.5	7.51	0	0	0	95	2.001
	300.4	7.38	0	0	0	95	2.001
	393.7	7.53	0	0	0	95	2.001
	382.2	7.34	0	0	0	95	2.001
	481.7	6.94	0	0	0	95	2.001
	472.3	6.62	0	0	0	95	2.001
	494.9	6.57	0	0	0	95	2.001
	495.0	6.64	0	0	0	95	2.001
	599.0	6.15	0	0	0	95	2.001
	587.1	5.68	0	0	0	95	2.001
	605.2	5.64	0	0	0	95	2.001
	698.0	5.30	0	0	0	95	2.001
	691.1	5.18	0	0	0	95	2.001
	702.3	5.06	0	0	0	95	2.001
	684.0	5.00	0	0	0	95	2.001
	693.0	4.83	0	0	0	95	2.001
	720.3	4.90	0	0	0	95	2.001
	788.2	4.67	0	0	0	95	2.001
	797.0	4.42	0	0	0	95	2.001
	797.0	4.37	0	0	0	95	2.001
	894.4	4.10	0	0	0	95	2.001
	894.2	3.94	0	0	0	95	2.001
	898.7	3.92	0	0	0	95	2.001
	987.2	3.78	0	0	0	95	2.001
	993.8	3.59	0	0	0	95	2.001
	998.5	3.70	0	0	0	95	2.001
	1084.5	3.37	0	0	0	95	2.001
	1104.8	3.29	0	0	0	95	2.001
	1105.0	3.40	0	0	0	95	2.001
	1177.3	3.07	0	0	0	95	2.001
	1184.2	3.12	0	0	0	95	2.001
	1268.1	2.95	0	0	0	95	2.001
	1279.3	2.86	0	0	0	95	2.001
	1288.5	2.88	0	0	0	95	2.001
	1374.7	2.74	0	0	0	95	2.001
	1372.3	2.69	0	0	0	95	2.001
	1388.2	2.65	0	0	0	95	2.001
	1794.5	2.17	0	0	0	95	2.001
	2019.4	2.14	0	0	0	95	2.001
	1522.1	2.51	0	0	0	95	2.001
	1544.8	2.48	0	0	0	95	2.001
	288.9	5.30	0	3	0	95	2.002
	288.9	5.24	0	3	0	95	2.002
	438.5	4.88	0	3	0	95	2.002
	648.9	4.05	0	3	0	95	2.002
	755.4	3.77	0	3	0	95	2.002
	880.0	3.47	0	3	0	95	2.002
	986.6	3.25	0	3	0	95	2.002
	1090.9	3.02	0	3	0	95	2.002
	1193.0	2.85	0	3	0	95	2.002
	290.4	4.63	0	5	0	95	2.000
	288.1	4.60	0	5	0	95	2.000
	474.4	4.50	0	5	0	95	2.000
	641.7	3.75	0	5	0	95	2.000
	696.3	3.79	0	5	0	95	2.000
	757.3	3.49	0	5	0	95	2.000
	877.5	3.26	0	5	0	95	2.000
	911.7	3.30	0	5	0	95	2.000
	986.4	3.07	0	5	0	95	2.000
	1086.2	2.92	0	5	0	95	2.000
	1190.6	2.76	0	5	0	95	2.000
	290.0	4.19	0	7	0	95	2.002
	473.9	4.09	0	7	0	95	2.002
	700.5	3.51	0	7	0	95	2.002
	909.2	3.13	0	7	0	95	2.002

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1113.4	2.84	0	7	0	95	2.002
	291.7	3.69	0	10	0	95	2.000
	298.5	3.68	0	10	0	95	2.000
	293.7	3.53	0	10	0	95	2.000
	473.4	3.62	0	10	0	95	2.000
	473.3	3.54	0	10	0	95	2.000
	557.2	3.33	0	10	0	95	2.000
	600.3	3.28	0	10	0	95	2.000
	688.9	3.22	0	10	0	95	2.000
	697.9	3.19	0	10	0	95	2.000
	777.3	3.03	0	10	0	95	2.000
	834.0	2.97	0	10	0	95	2.000
	895.4	2.98	0	10	0	95	2.000
	983.8	2.78	0	10	0	95	2.000
	1042.9	2.75	0	10	0	95	2.000
	1099.7	2.73	0	10	0	95	2.000
	1188.1	2.57	0	10	0	95	2.000
	1240.3	2.52	0	10	0	95	2.000
	1342.5	2.40	0	10	0	95	2.000
	1385.6	2.36	0	10	0	95	2.000
	1562.7	2.22	0	10	0	95	2.000
	1889.7	1.99	0	10	0	95	2.000
Lucuta et al. (1992)							
	300.0	7.58	0.00	0	0	95.0	2.000
	473.0	6.42	0.00	0	0	95.0	2.000
	673.0	5.09	0.00	0	0	95.0	2.000
	873.0	4.33	0.00	0	0	95.0	2.000
	1073.0	3.49	0.00	0	0	95.0	2.000
	1273.0	3.00	0.00	0	0	95.0	2.000
	1473.0	2.71	0.00	0	0	95.0	2.000
	1673.0	2.38	0.00	0	0	95.0	2.000
	1773.0	2.23	0.00	0	0	95.0	2.000
	300.0	5.77	28.14	0	0	98.0	2.000
	473.0	5.18	28.14	0	0	98.0	2.000
	673.0	4.34	28.14	0	0	98.0	2.000
	873.0	3.83	28.14	0	0	98.0	2.000
	1073.0	3.23	28.14	0	0	98.0	2.000
	1273.0	2.88	28.14	0	0	98.0	2.000
	1473.0	2.56	28.14	0	0	98.0	2.000
	1673.0	2.27	28.14	0	0	98.0	2.000
	1773.0	2.19	28.14	0	0	98.0	2.000
	300.0	4.41	75.04	0	0	98.6	2.000
	473.0	4.08	75.04	0	0	98.6	2.000
	673.0	3.66	75.04	0	0	98.6	2.000
	873.0	3.21	75.04	0	0	98.6	2.000
	1073.0	2.87	75.04	0	0	98.6	2.000
	1273.0	2.56	75.04	0	0	98.6	2.000
	1473.0	2.32	75.04	0	0	98.6	2.000
	1673.0	2.08	75.04	0	0	98.6	2.000
	1773.0	1.98	75.04	0	0	98.6	2.000
Massih et al. (1992)							
	577.3	5.28	0	0	0	95	2.000
	680.5	4.71	0	0	0	95	2.000
	780.8	4.24	0	0	0	95	2.000
	881.3	3.85	0	0	0	95	2.000
	975.9	3.54	0	0	0	95	2.000
	1076.5	3.26	0	0	0	95	2.000
	1174.2	3.03	0	0	0	95	2.000
	1271.9	2.82	0	0	0	95	2.000
	1369.7	2.65	0	0	0	95	2.000
	1476.3	2.49	0	0	0	95	2.000
	1577.1	2.36	0	0	0	95	2.000
	1677.9	2.23	0	0	0	95	2.000
	1775.7	2.13	0	0	0	95	2.000
	1873.6	2.05	0	0	0	95	2.000
	1924.0	1.99	0	0	0	95	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	573.0	4.21	0	2.98	0	95	2.000
	679.5	3.86	0	2.98	0	95	2.000
	780.1	3.58	0	2.98	0	95	2.000
	877.7	3.32	0	2.98	0	95	2.000
	975.4	3.09	0	2.98	0	95	2.000
	1076.1	2.90	0	2.98	0	95	2.000
	1173.9	2.74	0	2.98	0	95	2.000
	1274.6	2.59	0	2.98	0	95	2.000
	1375.4	2.46	0	2.98	0	95	2.000
	1479.1	2.33	0	2.98	0	95	2.000
	1579.9	2.23	0	2.98	0	95	2.000
	1677.8	2.13	0	2.98	0	95	2.000
	1778.6	2.04	0	2.98	0	95	2.000
	1876.5	1.97	0	2.98	0	95	2.000
	1926.9	1.91	0	2.98	0	95	2.000
	572.7	3.91	0	5.66	0	95	2.000
	679.2	3.61	0	5.66	0	95	2.000
	779.8	3.35	0	5.66	0	95	2.000
	877.5	3.12	0	5.66	0	95	2.000
	978.2	2.94	0	5.66	0	95	2.000
	1075.9	2.75	0	5.66	0	95	2.000
	1176.7	2.60	0	5.66	0	95	2.000
	1274.5	2.47	0	5.66	0	95	2.000
	1375.3	2.35	0	5.66	0	95	2.000
	1482.0	2.24	0	5.66	0	95	2.000
	1576.9	2.14	0	5.66	0	95	2.000
	1677.7	2.06	0	5.66	0	95	2.000
	1778.5	1.96	0	5.66	0	95	2.000
	1876.4	1.88	0	5.66	0	95	2.000
	1926.8	1.86	0	5.66	0	95	2.000
Tasman (1992)							
	300.0	7.55	0.00	0	0	95.0	2.000
	375.8	7.15	0.00	0	0	95.0	2.000
	477.4	6.38	0.00	0	0	95.0	2.000
	576.9	5.59	0.00	0	0	95.0	2.000
	678.3	5.03	0.00	0	0	95.0	2.000
	777.6	4.53	0.00	0	0	95.0	2.000
	876.7	4.27	0.00	0	0	95.0	2.000
	976.0	3.74	0.00	0	0	95.0	2.000
	1073.0	3.45	0.00	0	0	95.0	2.000
	1172.1	3.18	0.00	0	0	95.0	2.000
	1273.3	2.97	0.00	0	0	95.0	2.000
	1473.5	2.70	0.00	0	0	95.0	2.000
	1673.7	2.39	0.00	0	0	95.0	2.000
	1772.7	2.24	0.00	0	0	95.0	2.000
	300.0	5.36	28.14	0	0	95.0	2.000
	372.9	5.16	28.14	0	0	95.0	2.000
	478.5	4.80	28.14	0	0	95.0	2.000
	577.7	4.45	28.14	0	0	95.0	2.000
	676.9	4.03	28.14	0	0	95.0	2.000
	776.0	3.76	28.14	0	0	95.0	2.000
	877.2	3.58	28.14	0	0	95.0	2.000
	974.1	3.29	28.14	0	0	95.0	2.000
	1075.4	3.03	28.14	0	0	95.0	2.000
	1174.4	2.85	28.14	0	0	95.0	2.000
	1273.4	2.72	28.14	0	0	95.0	2.000
	1473.6	2.44	28.14	0	0	95.0	2.000
	1673.8	2.19	28.14	0	0	95.0	2.000
	1772.8	2.11	28.14	0	0	95.0	2.000
	300.0	3.99	75.04	0	0	95.0	2.000
	373.7	3.90	75.04	0	0	95.0	2.000
	477.1	3.69	75.04	0	0	95.0	2.000
	576.2	3.48	75.04	0	0	95.0	2.000
	677.3	3.32	75.04	0	0	95.0	2.000
	778.5	3.16	75.04	0	0	95.0	2.000
	875.4	2.93	75.04	0	0	95.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	976.6	2.75	75.04	0	0	95.0	2.000
	1073.5	2.62	75.04	0	0	95.0	2.000
	1172.5	2.48	75.04	0	0	95.0	2.000
	1271.5	2.38	75.04	0	0	95.0	2.000
	1471.7	2.17	75.04	0	0	95.0	2.000
	1669.6	1.96	75.04	0	0	95.0	2.000
	1770.8	1.88	75.04	0	0	95.0	2.000
Yamamoto et al. (1993)†							
	873.8	3.33	8.00	0	17.9	93.5	1.970
	1071.3	2.74	8.00	0	17.9	93.5	1.970
	1274.0	2.42	8.00	0	17.9	93.5	1.970
	1473.1	2.02	8.00	0	17.9	93.5	1.970
	1671.8	1.95	8.00	0	17.9	93.5	1.970
	1873.1	2.03	8.00	0	17.9	93.5	1.970
	890.5	3.27	19.00	0	17.7	93.2	1.970
	1093.9	2.79	19.00	0	17.7	93.2	1.970
	1292.1	2.48	19.00	0	17.7	93.2	1.970
	1473.8	2.32	19.00	0	17.7	93.2	1.970
	1672.3	2.19	19.00	0	17.7	93.2	1.970
	1889.9	2.02	19.00	0	17.7	93.2	1.970
	1896.7	2.02	19.00	0	17.7	93.2	1.970
	861.7	2.94	35.00	0	17.7	93.8	1.970
	1064.7	2.81	35.00	0	17.7	93.8	1.970
	1263.7	2.37	35.00	0	17.7	93.8	1.970
	1473.3	2.10	35.00	0	17.7	93.8	1.970
	1672.0	2.03	35.00	0	17.7	93.8	1.970
	1855.1	2.02	35.00	0	17.7	93.8	1.970
	872.3	2.79	0.50	0	28.4	93.6	1.970
	1072.8	2.27	0.50	0	28.4	93.6	1.970
	1271.8	1.87	0.50	0	28.4	93.6	1.970
	1471.0	1.72	0.50	0	28.4	93.6	1.970
	1675.0	1.61	0.50	0	28.4	93.6	1.970
	1875.8	1.59	0.50	0	28.4	93.6	1.970
	915.1	2.35	0.50	0	28.4	93.6	1.970
	1091.9	2.14	0.50	0	28.4	93.6	1.970
	1284.6	1.90	0.50	0	28.4	93.6	1.970
	1469.5	1.83	0.50	0	28.4	93.6	1.970
	1675.1	1.77	0.50	0	28.4	93.6	1.970
	921.3	2.19	0.50	0	28.4	93.6	1.970
	1071.1	2.01	0.50	0	28.4	93.6	1.970
	1273.4	1.74	0.50	0	28.4	93.6	1.970
	1472.6	1.62	0.50	0	28.4	93.6	1.970
	924.4	1.85	0.50	0	28.4	93.6	1.970
	1083.7	1.72	0.50	0	28.4	93.6	1.970
	1284.5	1.63	0.50	0	28.4	93.6	1.970
Pillai and George (1993)							
	326.5	8.16	0	0	0	93.4	2.015
	315.8	7.95	0	0	0	93.4	2.015
	399.6	6.76	0	0	0	93.4	2.015
	399.5	6.55	0	0	0	93.4	2.015
	502.1	5.69	0	0	0	93.4	2.015
	531.0	5.33	0	0	0	93.4	2.015
	619.6	4.58	0	0	0	93.4	2.015
	650.5	4.62	0	0	0	93.4	2.015
	719.0	4.18	0	0	0	93.4	2.015
	761.2	4.01	0	0	0	93.4	2.015
	822.8	3.68	0	0	0	93.4	2.015
	840.5	3.75	0	0	0	93.4	2.015
	926.6	3.24	0	0	0	93.4	2.015
	985.5	3.01	0	0	0	93.4	2.015
	1003.2	3.06	0	0	0	93.4	2.015
	1051.6	2.94	0	0	0	93.4	2.015
	1070.1	2.90	0	0	0	93.4	2.015
	1149.4	2.72	0	0	0	93.4	2.015
	1175.9	2.69	0	0	0	93.4	2.015
	1204.0	2.60	0	0	0	93.4	2.015

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1257.0	2.59	0	0	0	93.4	2.015
	1297.5	2.46	0	0	0	93.4	2.015
	1318.7	2.49	0	0	0	93.4	2.015
	1274.6	2.49	0	0	0	93.4	2.015
	1354.8	2.45	0	0	0	93.4	2.015
	1382.2	2.42	0	0	0	93.4	2.015
	1393.5	2.31	0	0	0	93.4	2.015
	1399.3	2.75	0	0	0	93.4	2.015
	1302.5	2.92	0	0	0	93.4	2.015
	1201.7	3.19	0	0	0	93.4	2.015
	1101.9	3.47	0	0	0	93.4	2.015
	998.2	3.84	0	0	0	93.4	2.015
	900.5	4.25	0	0	0	93.4	2.015
	800.8	4.80	0	0	0	93.4	2.015
	698.2	5.50	0	0	0	93.4	2.015
	596.7	6.45	0	0	0	93.4	2.015
	496.4	7.66	0	0	0	93.4	2.015
	399.4	9.63	0	0	0	93.4	2.015
	300.9	12.93	0	0	0	93.4	2.015
Lucuta et al. (1994)							
	300.0	8.28	0.00	0	0	97.8	2.000
	473.0	6.99	0.00	0	0	97.8	2.000
	673.0	5.51	0.00	0	0	97.8	2.000
	873.0	4.67	0.00	0	0	97.8	2.000
	1073.0	3.75	0.00	0	0	97.8	2.000
	1273.0	3.21	0.00	0	0	97.8	2.000
	1473.0	2.89	0.00	0	0	97.8	2.000
	1673.0	2.52	0.00	0	0	97.8	2.000
	1773.0	2.35	0.00	0	0	97.8	2.000
	300.0	7.18	14.07	0	0	97.8	2.000
	473.0	6.16	14.07	0	0	97.8	2.000
	673.0	4.98	14.07	0	0	97.8	2.000
	873.0	4.29	14.07	0	0	97.8	2.000
	1073.0	3.47	14.07	0	0	97.8	2.000
	1273.0	3.03	14.07	0	0	97.8	2.000
	1473.0	2.75	14.07	0	0	97.8	2.000
	1673.0	2.41	14.07	0	0	97.8	2.000
	1773.0	2.28	14.07	0	0	97.8	2.000
	300.0	5.77	28.14	0	0	97.6	2.000
	473.0	5.18	28.14	0	0	97.6	2.000
	673.0	4.36	28.14	0	0	97.6	2.000
	873.0	3.83	28.14	0	0	97.6	2.000
	1073.0	3.23	28.14	0	0	97.6	2.000
	1273.0	2.88	28.14	0	0	97.6	2.000
	1473.0	2.56	28.14	0	0	97.6	2.000
	1673.0	2.28	28.14	0	0	97.6	2.000
	1773.0	2.19	28.14	0	0	97.6	2.000
	300.0	4.41	75.04	0	0	98.7	2.000
	473.0	4.08	75.04	0	0	98.7	2.000
	673.0	3.66	75.04	0	0	98.7	2.000
	873.0	3.21	75.04	0	0	98.7	2.000
	1073.0	2.87	75.04	0	0	98.7	2.000
	1273.0	2.56	75.04	0	0	98.7	2.000
	1473.0	2.32	75.04	0	0	98.7	2.000
	1673.0	2.08	75.04	0	0	98.7	2.000
	1773.0	1.98	75.04	0	0	98.7	2.000
Lucuta et al. (1995)							
	296.1	8.55	0.00	0	0	98.3	2.000
	373.1	8.15	0.00	0	0	98.3	2.000
	473.1	7.23	0.00	0	0	98.3	2.000
	573.1	6.40	0.00	0	0	98.3	2.000
	673.1	5.74	0.00	0	0	98.3	2.000
	773.1	5.14	0.00	0	0	98.3	2.000
	873.1	4.70	0.00	0	0	98.3	2.000
	973.1	4.28	0.00	0	0	98.3	2.000
	1073.2	3.90	0.00	0	0	98.3	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1173.2	3.56	0.00	0	0	98.3	2.000
	1273.2	3.30	0.00	0	0	98.3	2.000
	1473.2	2.85	0.00	0	0	98.3	2.000
	1673.2	2.55	0.00	0	0	98.3	2.000
	1773.2	2.39	0.00	0	0	98.3	2.000
	296.1	7.63	0.00	0	0	97.2	2.007
	373.1	7.19	0.00	0	0	97.2	2.007
	473.1	6.40	0.00	0	0	97.2	2.007
	573.1	5.61	0.00	0	0	97.2	2.007
	673.1	4.92	0.00	0	0	97.2	2.007
	773.1	4.31	0.00	0	0	97.2	2.007
	873.1	3.98	0.00	0	0	97.2	2.007
	973.1	3.62	0.00	0	0	97.2	2.007
	1073.2	3.35	0.00	0	0	97.2	2.007
	1173.2	3.07	0.00	0	0	97.2	2.007
	1273.2	2.84	0.00	0	0	97.2	2.007
	1473.2	2.51	0.00	0	0	97.2	2.007
	1673.2	2.20	0.00	0	0	97.2	2.007
	1773.2	2.09	0.00	0	0	97.2	2.007
	296.1	5.79	0.00	0	0	97.4	2.035
	373.1	5.51	0.00	0	0	97.4	2.035
	473.1	5.25	0.00	0	0	97.4	2.035
	573.1	4.78	0.00	0	0	97.4	2.035
	673.1	3.93	0.00	0	0	97.4	2.035
	773.1	3.30	0.00	0	0	97.4	2.035
	873.1	2.91	0.00	0	0	97.4	2.035
	973.1	2.54	0.00	0	0	97.4	2.035
	1073.2	2.46	0.00	0	0	97.4	2.035
	1173.2	2.34	0.00	0	0	97.4	2.035
	1273.2	2.25	0.00	0	0	97.4	2.035
	1473.2	2.02	0.00	0	0	97.4	2.035
	1673.2	1.89	0.00	0	0	97.4	2.035
	1773.2	1.82	0.00	0	0	97.4	2.035
	296.1	4.11	0.00	0	0	97.4	2.084
	373.1	3.97	0.00	0	0	97.4	2.084
	473.1	3.78	0.00	0	0	97.4	2.084
	573.1	3.52	0.00	0	0	97.4	2.084
	673.1	2.91	0.00	0	0	97.4	2.084
	773.1	2.36	0.00	0	0	97.4	2.084
	873.1	2.04	0.00	0	0	97.4	2.084
	973.1	2.00	0.00	0	0	97.4	2.084
	1073.2	1.94	0.00	0	0	97.4	2.084
	1173.2	1.88	0.00	0	0	97.4	2.084
	1273.2	1.82	0.00	0	0	97.4	2.084
	1473.2	1.74	0.00	0	0	97.4	2.084
	1673.2	1.67	0.00	0	0	97.4	2.084
	1773.2	1.57	0.00	0	0	97.4	2.084
	296.1	6.23	28.14	0	0	98.8	2.000
	373.1	6.00	28.14	0	0	98.8	2.000
	473.1	5.51	28.14	0	0	98.8	2.000
	573.1	4.98	28.14	0	0	98.8	2.000
	673.1	4.48	28.14	0	0	98.8	2.000
	773.1	4.12	28.14	0	0	98.8	2.000
	873.1	3.82	28.14	0	0	98.8	2.000
	973.1	3.50	28.14	0	0	98.8	2.000
	1073.2	3.23	28.14	0	0	98.8	2.000
	1173.2	2.94	28.14	0	0	98.8	2.000
	1273.2	2.81	28.14	0	0	98.8	2.000
	1473.2	2.52	28.14	0	0	98.8	2.000
	1673.2	2.23	28.14	0	0	98.8	2.000
	1773.2	2.15	28.14	0	0	98.8	2.000
	296.1	6.04	28.14	0	0	98.2	2.007
	373.1	5.68	28.14	0	0	98.2	2.007
	473.1	5.09	28.14	0	0	98.2	2.007
	573.1	4.70	28.14	0	0	98.2	2.007
	673.1	4.22	28.14	0	0	98.2	2.007
	773.1	3.85	28.14	0	0	98.2	2.007

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	873.1	3.58	28.14	0	0	98.2	2.007
	973.1	3.31	28.14	0	0	98.2	2.007
	1073.2	3.11	28.14	0	0	98.2	2.007
	1173.2	2.86	28.14	0	0	98.2	2.007
	1273.2	2.72	28.14	0	0	98.2	2.007
	1473.2	2.40	28.14	0	0	98.2	2.007
	1673.2	2.14	28.14	0	0	98.2	2.007
	1773.2	2.05	28.14	0	0	98.2	2.007
	296.1	5.07	28.14	0	0	98.4	2.035
	373.1	4.79	28.14	0	0	98.4	2.035
	473.1	4.43	28.14	0	0	98.4	2.035
	573.1	4.02	28.14	0	0	98.4	2.035
	673.1	3.56	28.14	0	0	98.4	2.035
	773.1	3.29	28.14	0	0	98.4	2.035
	873.1	2.97	28.14	0	0	98.4	2.035
	973.1	2.72	28.14	0	0	98.4	2.035
	1073.2	2.51	28.14	0	0	98.4	2.035
	1173.2	2.41	28.14	0	0	98.4	2.035
	1273.2	2.29	28.14	0	0	98.4	2.035
	1473.2	2.09	28.14	0	0	98.4	2.035
	1673.2	1.92	28.14	0	0	98.4	2.035
	1773.2	1.82	28.14	0	0	98.4	2.035
	296.1	3.72	28.14	0	0	97.2	2.084
	373.1	3.58	28.14	0	0	97.2	2.084
	473.1	3.44	28.14	0	0	97.2	2.084
	573.1	3.23	28.14	0	0	97.2	2.084
	673.1	2.87	28.14	0	0	97.2	2.084
	773.1	2.29	28.14	0	0	97.2	2.084
	873.1	2.01	28.14	0	0	97.2	2.084
	973.1	2.00	28.14	0	0	97.2	2.084
	1073.2	1.93	28.14	0	0	97.2	2.084
	1173.2	1.89	28.14	0	0	97.2	2.084
	1273.2	1.84	28.14	0	0	97.2	2.084
	1473.2	1.77	28.14	0	0	97.2	2.084
	1673.2	1.71	28.14	0	0	97.2	2.084
	1773.2	1.61	28.14	0	0	97.2	2.084
	296.1	4.69	75.04	0	0	98.8	2.000
	373.1	4.56	75.04	0	0	98.8	2.000
	473.1	4.29	75.04	0	0	98.8	2.000
	573.1	4.06	75.04	0	0	98.8	2.000
	673.1	3.83	75.04	0	0	98.8	2.000
	773.1	3.55	75.04	0	0	98.8	2.000
	873.1	3.29	75.04	0	0	98.8	2.000
	973.1	3.04	75.04	0	0	98.8	2.000
	1073.2	2.86	75.04	0	0	98.8	2.000
	1173.2	2.63	75.04	0	0	98.8	2.000
	1273.2	2.44	75.04	0	0	98.8	2.000
	1473.2	2.23	75.04	0	0	98.8	2.000
	1673.2	2.12	75.04	0	0	98.8	2.000
	1773.2	2.00	75.04	0	0	98.8	2.000
	296.1	3.84	75.04	0	0	98.4	2.035
	373.1	3.67	75.04	0	0	98.4	2.035
	473.1	3.52	75.04	0	0	98.4	2.035
	573.1	3.36	75.04	0	0	98.4	2.035
	673.1	3.09	75.04	0	0	98.4	2.035
	773.1	2.95	75.04	0	0	98.4	2.035
	873.1	2.76	75.04	0	0	98.4	2.035
	973.1	2.58	75.04	0	0	98.4	2.035
	1073.2	2.42	75.04	0	0	98.4	2.035
	1173.2	2.39	75.04	0	0	98.4	2.035
	1273.2	2.26	75.04	0	0	98.4	2.035
	1473.2	2.05	75.04	0	0	98.4	2.035
	1673.2	1.92	75.04	0	0	98.4	2.035
	1773.2	1.82	75.04	0	0	98.4	2.035
	296.1	2.70	75.04	0	0	97.2	2.084
	373.1	2.58	75.04	0	0	97.2	2.084

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	473.1	2.54	75.04	0	0	97.2	2.084
	573.1	2.45	75.04	0	0	97.2	2.084
	673.1	2.31	75.04	0	0	97.2	2.084
	773.1	2.17	75.04	0	0	97.2	2.084
	873.1	2.06	75.04	0	0	97.2	2.084
	973.1	2.00	75.04	0	0	97.2	2.084
	1073.2	1.94	75.04	0	0	97.2	2.084
	1173.2	1.84	75.04	0	0	97.2	2.084
	1273.2	1.80	75.04	0	0	97.2	2.084
	1473.2	1.77	75.04	0	0	97.2	2.084
	1673.2	1.72	75.04	0	0	97.2	2.084
	1773.2	1.63	75.04	0	0	97.2	2.084
Amaya et al. (1996)							
	281.3	7.37	0	0	0	97.9	2.020
	283.6	7.23	0	0	0	97.9	2.020
	484.0	5.95	0	0	0	97.9	2.020
	589.1	5.17	0	0	0	97.9	2.020
	683.9	4.30	0	0	0	97.9	2.020
	794.2	3.62	0	0	0	97.9	2.020
	889.9	3.39	0	0	0	97.9	2.020
	894.9	3.33	0	0	0	97.9	2.020
	990.7	3.14	0	0	0	97.9	2.020
	1083.9	2.93	0	0	0	97.9	2.020
	1195.0	2.78	0	0	0	97.9	2.020
	1295.9	2.62	0	0	0	97.9	2.020
	1399.4	2.51	0	0	0	97.9	2.020
	281.1	5.30	0	0	0	96.7	2.050
	281.2	5.35	0	0	0	96.7	2.050
	479.9	4.69	0	0	0	96.7	2.050
	587.8	4.14	0	0	0	96.7	2.050
	685.6	3.63	0	0	0	96.7	2.050
	693.1	3.53	0	0	0	96.7	2.050
	792.9	2.66	0	0	0	96.7	2.050
	896.4	2.59	0	0	0	96.7	2.050
	987.3	2.47	0	0	0	96.7	2.050
	1093.4	2.39	0	0	0	96.7	2.050
	1191.9	2.31	0	0	0	96.7	2.050
	1292.9	2.23	0	0	0	96.7	2.050
	1396.4	2.16	0	0	0	96.7	2.050
	278.1	3.34	0	0	0	97.1	2.110
	482.5	3.13	0	0	0	97.1	2.110
	586.0	2.95	0	0	0	97.1	2.110
	679.1	2.71	0	0	0	97.1	2.110
	792.1	2.17	0	0	0	97.1	2.110
	895.6	2.03	0	0	0	97.1	2.110
	991.6	2.02	0	0	0	97.1	2.110
	1090.2	2.01	0	0	0	97.1	2.110
	1191.4	2.01	0	0	0	97.1	2.110
	1295.0	1.95	0	0	0	97.1	2.110
	282.0	2.60	0	0	0	97.3	2.150
	281.9	2.56	0	0	0	97.3	2.150
	481.6	2.52	0	0	0	97.3	2.150
	587.7	2.44	0	0	0	97.3	2.150
	686.1	2.32	0	0	0	97.3	2.150
	696.2	2.30	0	0	0	97.3	2.150
	799.5	2.06	0	0	0	97.3	2.150
	890.4	1.95	0	0	0	97.3	2.150
	989.0	1.93	0	0	0	97.3	2.150
	281.3	2.06	0	0	0	96.5	2.200
	491.1	2.05	0	0	0	96.5	2.200
	589.6	1.99	0	0	0	96.5	2.200
	680.6	1.95	0	0	0	96.5	2.200
	695.8	1.97	0	0	0	96.5	2.200
	796.8	1.88	0	0	0	96.5	2.200
	890.2	1.79	0	0	0	96.5	2.200
	991.3	1.77	0	0	0	96.5	2.200

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1087.4	1.78	0	0	0	96.5	2.200
	1193.6	1.78	0	0	0	96.5	2.200
	1294.8	1.82	0	0	0	96.5	2.200
Amaya and Hirai (1996)							
	281.2	4.01	0.00	10	0	97.0	2.000
	281.3	3.91	0.00	10	0	97.0	2.000
	478.0	3.81	0.00	10	0	97.0	2.000
	674.5	3.32	0.00	10	0	97.0	2.000
	873.6	3.07	0.00	10	0	97.0	2.000
	1072.6	2.92	0.00	10	0	97.0	2.000
	1280.7	2.63	0.00	10	0	97.0	2.000
	1494.8	2.43	0.00	10	0	97.0	2.000
	1681.6	2.49	0.00	10	0	97.0	2.000
	277.0	2.49	0.00	10	0	96.9	2.060
	452.2	2.52	0.00	10	0	96.9	2.060
	563.9	2.41	0.00	10	0	96.9	2.060
	663.4	2.32	0.00	10	0	96.9	2.060
	759.8	2.32	0.00	10	0	96.9	2.060
	865.4	2.26	0.00	10	0	96.9	2.060
	967.8	2.25	0.00	10	0	96.9	2.060
	1064.2	2.21	0.00	10	0	96.9	2.060
	1175.7	2.17	0.00	10	0	96.9	2.060
	1278.2	2.15	0.00	10	0	96.9	2.060
	1383.6	2.12	0.00	10	0	96.9	2.060
	280.6	2.05	0.00	10	0	96.6	2.080
	476.8	2.07	0.00	10	0	96.6	2.080
	579.3	2.04	0.00	10	0	96.6	2.080
	672.7	2.10	0.00	10	0	96.6	2.080
	678.8	2.01	0.00	10	0	96.6	2.080
	775.2	2.00	0.00	10	0	96.6	2.080
	871.6	2.01	0.00	10	0	96.6	2.080
	977.1	1.97	0.00	10	0	96.6	2.080
	1076.5	1.99	0.00	10	0	96.6	2.080
	1175.9	1.97	0.00	10	0	96.6	2.080
	1281.4	1.96	0.00	10	0	96.6	2.080
	1383.8	1.92	0.00	10	0	96.6	2.080
	293.0	1.81	0.00	10	0	96.8	2.110
	458.9	1.89	0.00	10	0	96.8	2.110
	558.4	1.87	0.00	10	0	96.8	2.110
	657.8	1.90	0.00	10	0	96.8	2.110
	757.3	1.85	0.00	10	0	96.8	2.110
	856.7	1.86	0.00	10	0	96.8	2.110
	962.1	1.86	0.00	10	0	96.8	2.110
	1064.5	1.92	0.00	10	0	96.8	2.110
	1170.0	1.86	0.00	10	0	96.8	2.110
	1278.5	1.85	0.00	10	0	96.8	2.110
	1393.0	1.83	0.00	10	0	96.8	2.110
	290.2	1.62	0.00	10	0	95.9	2.150
	462.1	1.69	0.00	10	0	95.9	2.150
	564.6	1.70	0.00	10	0	95.9	2.150
	655.0	1.72	0.00	10	0	95.9	2.150
	760.4	1.72	0.00	10	0	95.9	2.150
	859.8	1.72	0.00	10	0	95.9	2.150
	965.3	1.70	0.00	10	0	95.9	2.150
	1064.7	1.74	0.00	10	0	95.9	2.150
	1173.1	1.71	0.00	10	0	95.9	2.150
	1275.6	1.73	0.00	10	0	95.9	2.150
	1384.0	1.70	0.00	10	0	95.9	2.150
	277.1	4.37	30.00	0	0	96.1	2.020
	282.5	4.33	30.00	0	0	96.1	2.020
	443.4	4.11	30.00	0	0	96.1	2.020
	448.7	4.09	30.00	0	0	96.1	2.020
	561.2	3.72	30.00	0	0	96.1	2.020
	657.5	3.44	30.00	0	0	96.1	2.020
	764.5	3.20	30.00	0	0	96.1	2.020
	866.1	3.01	30.00	0	0	96.1	2.020

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	962.4	2.85	30.00	0	0	96.1	2.020
	1069.3	2.69	30.00	0	0	96.1	2.020
	1168.2	2.53	30.00	0	0	96.1	2.020
	1176.2	2.48	30.00	0	0	96.1	2.020
	1280.4	2.38	30.00	0	0	96.1	2.020
	278.1	3.73	60.00	0	0	96.7	2.020
	278.2	3.66	60.00	0	0	96.7	2.020
	465.5	3.49	60.00	0	0	96.7	2.020
	558.9	3.28	60.00	0	0	96.7	2.020
	637.1	3.28	60.00	0	0	96.7	2.020
	654.8	3.24	60.00	0	0	96.7	2.020
	667.5	3.08	60.00	0	0	96.7	2.020
	652.3	3.13	60.00	0	0	96.7	2.020
	778.5	2.92	60.00	0	0	96.7	2.020
	876.9	2.76	60.00	0	0	96.7	2.020
	977.8	2.63	60.00	0	0	96.7	2.020
	1081.2	2.47	60.00	0	0	96.7	2.020
	1187.1	2.36	60.00	0	0	96.7	2.020
	1293.0	2.25	60.00	0	0	96.7	2.020
Kosaka et al. (1996)							
	294.3	8.21	0	0.0	0	95.0	2.000
	294.3	8.12	0	0.0	0	95.0	2.000
	294.3	8.10	0	0.0	0	95.0	2.000
	294.2	8.02	0	0.0	0	95.0	2.000
	294.2	7.97	0	0.0	0	95.0	2.000
	296.2	7.90	0	0.0	0	95.0	2.000
	296.2	7.83	0	0.0	0	95.0	2.000
	294.1	7.73	0	0.0	0	95.0	2.000
	481.9	7.26	0	0.0	0	95.0	2.000
	479.8	7.23	0	0.0	0	95.0	2.000
	475.6	7.10	0	0.0	0	95.0	2.000
	488.0	6.83	0	0.0	0	95.0	2.000
	490.1	6.71	0	0.0	0	95.0	2.000
	494.2	6.63	0	0.0	0	95.0	2.000
	487.9	6.60	0	0.0	0	95.0	2.000
	671.2	5.31	0	0.0	0	95.0	2.000
	692.1	5.23	0	0.0	0	95.0	2.000
	692.0	5.11	0	0.0	0	95.0	2.000
	685.7	4.98	0	0.0	0	95.0	2.000
	819.1	4.28	0	0.0	0	95.0	2.000
	810.8	4.39	0	0.0	0	95.0	2.000
	881.8	4.15	0	0.0	0	95.0	2.000
	898.4	4.09	0	0.0	0	95.0	2.000
	902.6	4.13	0	0.0	0	95.0	2.000
	892.1	3.96	0	0.0	0	95.0	2.000
	1044.4	3.43	0	0.0	0	95.0	2.000
	1080.0	3.56	0	0.0	0	95.0	2.000
	1090.4	3.43	0	0.0	0	95.0	2.000
	1105.0	3.45	0	0.0	0	95.0	2.000
	1259.4	2.86	0	0.0	0	95.0	2.000
	1272.0	2.96	0	0.0	0	95.0	2.000
	1292.9	2.99	0	0.0	0	95.0	2.000
	1278.4	3.14	0	0.0	0	95.0	2.000
	1278.4	3.16	0	0.0	0	95.0	2.000
	1451.6	2.57	0	0.0	0	95.0	2.000
	1639.5	2.29	0	0.0	0	95.0	2.000
	1727.3	2.23	0	0.0	0	95.0	2.000
	294.8	4.83	0	6.0	0	95.0	2.010
	294.8	4.78	0	6.0	0	95.0	2.010
	292.7	4.70	0	6.0	0	95.0	2.010
	478.5	4.41	0	6.0	0	95.0	2.010
	495.2	4.32	0	6.0	0	95.0	2.010
	493.1	4.26	0	6.0	0	95.0	2.010
	672.6	3.84	0	6.0	0	95.0	2.010
	674.7	3.71	0	6.0	0	95.0	2.010
	674.6	3.67	0	6.0	0	95.0	2.010

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	676.7	3.55	0	6.0	0	95.0	2.010
	697.6	3.58	0	6.0	0	95.0	2.010
	699.7	3.62	0	6.0	0	95.0	2.010
	881.3	3.14	0	6.0	0	95.0	2.010
	883.4	3.28	0	6.0	0	95.0	2.010
	900.2	3.25	0	6.0	0	95.0	2.010
	900.1	3.16	0	6.0	0	95.0	2.010
	1094.3	2.90	0	6.0	0	95.0	2.010
	1079.7	2.93	0	6.0	0	95.0	2.010
	1083.9	2.97	0	6.0	0	95.0	2.010
	1269.8	2.74	0	6.0	0	95.0	2.010
	1280.2	2.67	0	6.0	0	95.0	2.010
	1288.6	2.59	0	6.0	0	95.0	2.010
	1639.5	2.19	0	6.0	0	95.0	2.010
	290.3	4.00	0	9.9	0	95.0	2.010
	294.5	4.05	0	9.9	0	95.0	2.010
	292.4	4.21	0	9.9	0	95.0	2.010
	294.6	4.34	0	9.9	0	95.0	2.010
	457.5	4.02	0	9.9	0	95.0	2.010
	476.3	4.03	0	9.9	0	95.0	2.010
	478.3	3.84	0	9.9	0	95.0	2.010
	467.9	3.96	0	9.9	0	95.0	2.010
	492.9	3.77	0	9.9	0	95.0	2.010
	492.8	3.66	0	9.9	0	95.0	2.010
	672.4	3.26	0	9.9	0	95.0	2.010
	676.6	3.38	0	9.9	0	95.0	2.010
	693.3	3.30	0	9.9	0	95.0	2.010
	812.3	3.17	0	9.9	0	95.0	2.010
	812.3	3.13	0	9.9	0	95.0	2.010
	879.1	2.95	0	9.9	0	95.0	2.010
	900.0	2.86	0	9.9	0	95.0	2.010
	900.0	2.95	0	9.9	0	95.0	2.010
	904.2	3.04	0	9.9	0	95.0	2.010
	1042.1	2.83	0	9.9	0	95.0	2.010
	1075.5	2.75	0	9.9	0	95.0	2.010
	1081.8	2.79	0	9.9	0	95.0	2.010
	1073.4	2.70	0	9.9	0	95.0	2.010
	1265.5	2.50	0	9.9	0	95.0	2.010
	1259.3	2.54	0	9.9	0	95.0	2.010
	1267.7	2.62	0	9.9	0	95.0	2.010
	1453.5	2.34	0	9.9	0	95.0	2.010
	1641.5	2.08	0	9.9	0	95.0	2.010
Nakamura et al. (1996)†							
	287.2	2.78	63.00	0	0	86.0	2.000
	472.6	2.85	63.00	0	0	86.0	2.000
	686.0	2.46	63.00	0	0	86.0	2.000
	897.5	2.22	63.00	0	0	86.0	2.000
	1107.1	2.07	63.00	0	0	86.0	2.000
	1307.3	1.95	63.00	0	0	86.0	2.000
	1399.0	1.92	63.00	0	0	86.0	2.000
	1500.1	1.86	63.00	0	0	86.0	2.000
	1603.0	1.80	63.00	0	0	86.0	2.000
	289.2	2.27	63.00	0	0	86.0	2.000
	367.9	2.32	63.00	0	0	86.0	2.000
	455.9	2.27	63.00	0	0	86.0	2.000
	577.5	2.13	63.00	0	0	86.0	2.000
	676.7	2.03	63.00	0	0	86.0	2.000
	789.0	1.94	63.00	0	0	86.0	2.000
	897.6	1.83	63.00	0	0	86.0	2.000
	993.0	1.81	63.00	0	0	86.0	2.000
	1099.7	1.82	63.00	0	0	86.0	2.000
	1109.0	1.80	63.00	0	0	86.0	2.000
	1193.2	1.96	63.00	0	0	86.0	2.000
	1294.2	1.96	63.00	0	0	86.0	2.000
	285.5	2.11	63.00	0	0	86.0	2.000
	349.2	2.08	63.00	0	0	86.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	425.9	2.13	63.00	0	0	86.0	2.000
	547.6	2.04	63.00	0	0	86.0	2.000
	661.8	1.93	63.00	0	0	86.0	2.000
	779.7	1.85	63.00	0	0	86.0	2.000
	882.6	1.85	63.00	0	0	86.0	2.000
	287.9	4.28	63.00	0	0	94.0	2.000
	287.8	4.09	63.00	0	0	94.0	2.000
	463.3	4.06	63.00	0	0	94.0	2.000
	664.9	3.36	63.00	0	0	94.0	2.000
	880.5	2.81	63.00	0	0	94.0	2.000
	1090.8	2.55	63.00	0	0	94.0	2.000
	1294.3	2.24	63.00	0	0	94.0	2.000
	1391.7	2.24	63.00	0	0	94.0	2.000
	1496.0	2.19	63.00	0	0	94.0	2.000
	1596.8	2.10	63.00	0	0	94.0	2.000
	1696.0	2.10	63.00	0	0	94.0	2.000
	1796.8	2.02	63.00	0	0	94.0	2.000
	289.5	3.51	63.00	0	0	94.0	2.000
	289.4	3.20	63.00	0	0	94.0	2.000
	385.0	3.41	63.00	0	0	94.0	2.000
	392.0	3.70	63.00	0	0	94.0	2.000
	480.6	3.48	63.00	0	0	94.0	2.000
	468.4	3.28	63.00	0	0	94.0	2.000
	581.4	3.25	63.00	0	0	94.0	2.000
	574.4	3.02	63.00	0	0	94.0	2.000
	671.8	2.79	63.00	0	0	94.0	2.000
	682.2	2.98	63.00	0	0	94.0	2.000
	776.1	2.75	63.00	0	0	94.0	2.000
	774.3	2.62	63.00	0	0	94.0	2.000
	885.6	2.48	63.00	0	0	94.0	2.000
	885.6	2.58	63.00	0	0	94.0	2.000
	988.2	2.46	63.00	0	0	94.0	2.000
	1089.1	2.42	63.00	0	0	94.0	2.000
	1195.2	2.36	63.00	0	0	94.0	2.000
	1299.5	2.32	63.00	0	0	94.0	2.000
Hirai et al. (1996)†							
	284.7	9.91	0.00	0	0	98.0	2.000
	270.1	8.80	0.00	0	0	98.0	2.000
	279.3	8.98	0.00	0	0	98.0	2.000
	294.6	9.05	0.00	0	0	98.0	2.000
	282.6	8.60	0.00	0	0	98.0	2.000
	285.8	8.47	0.00	0	0	98.0	2.000
	273.7	8.19	0.00	0	0	98.0	2.000
	267.8	7.91	0.00	0	0	98.0	2.000
	270.9	7.85	0.00	0	0	98.0	2.000
	289.2	8.10	0.00	0	0	98.0	2.000
	286.3	7.88	0.00	0	0	98.0	2.000
	271.2	7.46	0.00	0	0	98.0	2.000
	271.4	7.24	0.00	0	0	98.0	2.000
	271.5	7.10	0.00	0	0	98.0	2.000
	289.4	7.77	0.00	0	0	98.0	2.000
	310.8	7.96	0.00	0	0	98.0	2.000
	320.0	7.96	0.00	0	0	98.0	2.000
	323.3	7.73	0.00	0	0	98.0	2.000
	293.3	6.71	0.00	0	0	98.0	2.000
	341.8	7.47	0.00	0	0	98.0	2.000
	347.9	7.58	0.00	0	0	98.0	2.000
	390.1	8.44	0.00	0	0	98.0	2.000
	418.3	7.47	0.00	0	0	98.0	2.000
	488.4	7.58	0.00	0	0	98.0	2.000
	488.6	7.25	0.00	0	0	98.0	2.000
	458.1	7.29	0.00	0	0	98.0	2.000
	492.1	6.50	0.00	0	0	98.0	2.000
	477.0	6.36	0.00	0	0	98.0	2.000
	553.2	6.34	0.00	0	0	98.0	2.000
	550.3	6.08	0.00	0	0	98.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	568.6	6.15	0.00	0	0	98.0	2.000
	574.9	5.69	0.00	0	0	98.0	2.000
	605.3	5.89	0.00	0	0	98.0	2.000
	617.4	6.10	0.00	0	0	98.0	2.000
	620.8	5.44	0.00	0	0	98.0	2.000
	633.0	5.33	0.00	0	0	98.0	2.000
	672.5	5.53	0.00	0	0	98.0	2.000
	690.8	5.45	0.00	0	0	98.0	2.000
	684.9	5.29	0.00	0	0	98.0	2.000
	706.4	4.98	0.00	0	0	98.0	2.000
	767.4	4.67	0.00	0	0	98.0	2.000
	776.8	4.29	0.00	0	0	98.0	2.000
	828.2	4.91	0.00	0	0	98.0	2.000
	834.5	4.65	0.00	0	0	98.0	2.000
	831.5	4.45	0.00	0	0	98.0	2.000
	831.7	4.19	0.00	0	0	98.0	2.000
	868.2	4.31	0.00	0	0	98.0	2.000
	871.4	4.01	0.00	0	0	98.0	2.000
	874.5	3.88	0.00	0	0	98.0	2.000
	987.3	3.59	0.00	0	0	98.0	2.000
	993.3	3.76	0.00	0	0	98.0	2.000
	1039.1	3.57	0.00	0	0	98.0	2.000
	1057.2	3.75	0.00	0	0	98.0	2.000
	1057.4	3.54	0.00	0	0	98.0	2.000
	1170.2	3.24	0.00	0	0	98.0	2.000
	1194.5	3.34	0.00	0	0	98.0	2.000
	1197.7	3.11	0.00	0	0	98.0	2.000
	1234.2	3.11	0.00	0	0	98.0	2.000
	1249.4	3.08	0.00	0	0	98.0	2.000
	1276.8	3.06	0.00	0	0	98.0	2.000
	1280.0	2.92	0.00	0	0	98.0	2.000
	1389.6	2.81	0.00	0	0	98.0	2.000
	1407.9	2.78	0.00	0	0	98.0	2.000
	1435.3	2.75	0.00	0	0	98.0	2.000
	1539.0	2.53	0.00	0	0	98.0	2.000
	1563.4	2.47	0.00	0	0	98.0	2.000
	1578.5	2.61	0.00	0	0	98.0	2.000
	1612.0	2.62	0.00	0	0	98.0	2.000
	1618.2	2.48	0.00	0	0	98.0	2.000
	1712.6	2.38	0.00	0	0	98.0	2.000
	1730.9	2.35	0.00	0	0	98.0	2.000
	1764.4	2.25	0.00	0	0	98.0	2.000
	1788.7	2.41	0.00	0	0	98.0	2.000
	1807.0	2.27	0.00	0	0	98.0	2.000
	1871.0	2.27	0.00	0	0	98.0	2.000
	1889.2	2.36	0.00	0	0	98.0	2.000
	1889.3	2.13	0.00	0	0	98.0	2.000
	1925.8	2.23	0.00	0	0	98.0	2.000
	1944.2	2.09	0.00	0	0	98.0	2.000
	454.7	5.33	39.30	0	0	96.4	2.000
	665.1	4.05	39.30	0	0	96.4	2.000
	865.9	3.45	39.30	0	0	96.4	2.000
	452.5	4.92	39.30	0	0	96.4	2.000
	665.3	3.67	39.30	0	0	96.4	2.000
	866.0	3.09	39.30	0	0	96.4	2.000
	462.4	3.58	39.30	0	0	96.4	2.000
	294.7	2.87	39.30	0	0	96.4	2.000
	462.6	3.02	39.30	0	0	96.4	2.000
	553.6	2.99	39.30	0	0	96.4	2.000
	663.2	3.08	39.30	0	0	96.4	2.000
	668.0	2.74	39.30	0	0	96.4	2.000
	768.2	2.63	39.30	0	0	96.4	2.000
	875.5	2.58	39.30	0	0	96.4	2.000
	870.8	2.72	39.30	0	0	96.4	2.000
	978.1	2.52	39.30	0	0	96.4	2.000
	1076.0	2.50	39.30	0	0	96.4	2.000
	1174.0	2.42	39.30	0	0	96.4	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1274.2	2.29	39.30	0	0	96.4	2.000
	1379.1	2.36	39.30	0	0	96.4	2.000
	1481.7	2.33	39.30	0	0	96.4	2.000
	1572.7	2.17	39.30	0	0	96.4	2.000
	1675.3	2.15	39.30	0	0	96.4	2.000
	1777.8	2.15	39.30	0	0	96.4	2.000
	1677.6	2.10	39.30	0	0	96.4	2.000
	1873.4	2.16	39.30	0	0	96.4	2.000
	302.9	4.74	43.10	0	0	95.3	2.000
	450.8	4.99	43.10	0	0	95.3	2.000
	457.3	4.54	43.10	0	0	95.3	2.000
	453.8	4.38	43.10	0	0	95.3	2.000
	457.0	4.17	43.10	0	0	95.3	2.000
	453.6	4.05	43.10	0	0	95.3	2.000
	554.4	3.77	43.10	0	0	95.3	2.000
	658.8	3.99	43.10	0	0	95.3	2.000
	662.1	3.91	43.10	0	0	95.3	2.000
	662.0	3.79	43.10	0	0	95.3	2.000
	661.9	3.52	43.10	0	0	95.3	2.000
	786.2	3.15	43.10	0	0	95.3	2.000
	867.1	3.21	43.10	0	0	95.3	2.000
	867.0	3.09	43.10	0	0	95.3	2.000
	870.3	2.93	43.10	0	0	95.3	2.000
	870.3	2.97	43.10	0	0	95.3	2.000
	974.6	2.84	43.10	0	0	95.3	2.000
	1075.5	2.75	43.10	0	0	95.3	2.000
	1166.4	2.69	43.10	0	0	95.3	2.000
	1270.6	2.45	43.10	0	0	95.3	2.000
	1375.0	2.39	43.10	0	0	95.3	2.000
	1486.0	2.28	43.10	0	0	95.3	2.000
	1479.2	2.16	43.10	0	0	95.3	2.000
	1576.9	2.18	43.10	0	0	95.3	2.000
	1674.4	1.93	43.10	0	0	95.3	2.000
	1772.0	1.91	43.10	0	0	95.3	2.000
	1873.0	1.92	43.10	0	0	95.3	2.000
Ohira and Itagaki (1997)†							
	671.0	3.39	61.00	0	0	96.1	2.000
	671.1	3.27	61.00	0	0	96.1	2.000
	671.1	3.29	61.00	0	0	96.1	2.000
	869.5	2.84	61.00	0	0	96.1	2.000
	869.5	2.77	61.00	0	0	96.1	2.000
	1070.6	2.52	61.00	0	0	96.1	2.000
	1070.7	2.49	61.00	0	0	96.1	2.000
	1271.7	2.30	61.00	0	0	96.1	2.000
	1271.8	2.24	61.00	0	0	96.1	2.000
	1472.8	2.08	61.00	0	0	96.1	2.000
	1668.4	1.98	61.00	0	0	96.1	2.000
	1671.2	1.84	61.00	0	0	96.1	2.000
	1671.2	1.96	61.00	0	0	96.1	2.000
	1472.9	1.95	61.00	0	0	96.1	2.000
	1472.9	2.02	61.00	0	0	96.1	2.000
	1269.1	2.05	61.00	0	0	96.1	2.000
	1269.1	2.17	61.00	0	0	96.1	2.000
	1070.8	2.19	61.00	0	0	96.1	2.000
	869.8	2.13	61.00	0	0	96.1	2.000
	872.4	2.25	61.00	0	0	96.1	2.000
	872.4	2.32	61.00	0	0	96.1	2.000
	674.1	2.34	61.00	0	0	96.1	2.000
Wiesenack (1997)							
	673.0	4.71	0.00	0	0	95.0	2.000
	773.0	4.23	0.00	0	0	95.0	2.000
	873.0	3.84	0.00	0	0	95.0	2.000
	973.0	3.52	0.00	0	0	95.0	2.000
	1073.0	3.26	0.00	0	0	95.0	2.000
	1173.0	3.03	0.00	0	0	95.0	2.000
	1273.0	2.85	0.00	0	0	95.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1373.0	2.69	0.00	0	0	95.0	2.000
	1473.0	2.55	0.00	0	0	95.0	2.000
	1573.0	2.44	0.00	0	0	95.0	2.000
	1673.0	2.35	0.00	0	0	95.0	2.000
	1773.0	2.28	0.00	0	0	95.0	2.000
	1873.0	2.22	0.00	0	0	95.0	2.000
	1973.0	2.19	0.00	0	0	95.0	2.000
	2073.0	2.17	0.00	0	0	95.0	2.000
	2173.0	2.18	0.00	0	0	95.0	2.000
	2273.0	2.21	0.00	0	0	95.0	2.000
	2373.0	2.26	0.00	0	0	95.0	2.000
	2473.0	2.34	0.00	0	0	95.0	2.000
	2573.0	2.46	0.00	0	0	95.0	2.000
	2673.0	2.61	0.00	0	0	95.0	2.000
	2773.0	2.81	0.00	0	0	95.0	2.000
	2873.0	3.07	0.00	0	0	95.0	2.000
	2973.0	3.39	0.00	0	0	95.0	2.000
	3073.0	3.79	0.00	0	0	95.0	2.000
	673.0	3.78	18.76	0	0	95.0	2.000
	773.0	3.49	18.76	0	0	95.0	2.000
	873.0	3.24	18.76	0	0	95.0	2.000
	973.0	3.02	18.76	0	0	95.0	2.000
	1073.0	2.84	18.76	0	0	95.0	2.000
	1173.0	2.68	18.76	0	0	95.0	2.000
	1273.0	2.55	18.76	0	0	95.0	2.000
	1373.0	2.43	18.76	0	0	95.0	2.000
	1473.0	2.33	18.76	0	0	95.0	2.000
	1573.0	2.25	18.76	0	0	95.0	2.000
	1673.0	2.18	18.76	0	0	95.0	2.000
	1773.0	2.13	18.76	0	0	95.0	2.000
	1873.0	2.10	18.76	0	0	95.0	2.000
	1973.0	2.08	18.76	0	0	95.0	2.000
	2073.0	2.07	18.76	0	0	95.0	2.000
	2173.0	2.09	18.76	0	0	95.0	2.000
	2273.0	2.13	18.76	0	0	95.0	2.000
	2373.0	2.19	18.76	0	0	95.0	2.000
	2473.0	2.28	18.76	0	0	95.0	2.000
	2573.0	2.40	18.76	0	0	95.0	2.000
	2673.0	2.57	18.76	0	0	95.0	2.000
	2773.0	2.77	18.76	0	0	95.0	2.000
	2873.0	3.03	18.76	0	0	95.0	2.000
	2973.0	3.36	18.76	0	0	95.0	2.000
	3073.0	3.76	18.76	0	0	95.0	2.000
	673.0	3.45	28.14	0	0	95.0	2.000
	773.0	3.21	28.14	0	0	95.0	2.000
	873.0	3.00	28.14	0	0	95.0	2.000
	973.0	2.82	28.14	0	0	95.0	2.000
	1073.0	2.67	28.14	0	0	95.0	2.000
	1173.0	2.54	28.14	0	0	95.0	2.000
	1273.0	2.42	28.14	0	0	95.0	2.000
	1373.0	2.32	28.14	0	0	95.0	2.000
	1473.0	2.24	28.14	0	0	95.0	2.000
	1573.0	2.17	28.14	0	0	95.0	2.000
	1673.0	2.11	28.14	0	0	95.0	2.000
	1773.0	2.07	28.14	0	0	95.0	2.000
	1873.0	2.04	28.14	0	0	95.0	2.000
	1973.0	2.02	28.14	0	0	95.0	2.000
	2073.0	2.03	28.14	0	0	95.0	2.000
	2173.0	2.05	28.14	0	0	95.0	2.000
	2273.0	2.09	28.14	0	0	95.0	2.000
	2373.0	2.16	28.14	0	0	95.0	2.000
	2473.0	2.25	28.14	0	0	95.0	2.000
	2573.0	2.38	28.14	0	0	95.0	2.000
	2673.0	2.54	28.14	0	0	95.0	2.000
	2773.0	2.75	28.14	0	0	95.0	2.000
	2873.0	3.01	28.14	0	0	95.0	2.000
	2973.0	3.34	28.14	0	0	95.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	3073.0	3.75	28.14	0	0	95.0	2.000
	673.0	3.17	37.52	0	0	95.0	2.000
	773.0	2.97	37.52	0	0	95.0	2.000
	873.0	2.80	37.52	0	0	95.0	2.000
	973.0	2.65	37.52	0	0	95.0	2.000
	1073.0	2.52	37.52	0	0	95.0	2.000
	1173.0	2.40	37.52	0	0	95.0	2.000
	1273.0	2.30	37.52	0	0	95.0	2.000
	1373.0	2.22	37.52	0	0	95.0	2.000
	1473.0	2.15	37.52	0	0	95.0	2.000
	1573.0	2.09	37.52	0	0	95.0	2.000
	1673.0	2.04	37.52	0	0	95.0	2.000
	1773.0	2.00	37.52	0	0	95.0	2.000
	1873.0	1.98	37.52	0	0	95.0	2.000
	1973.0	1.98	37.52	0	0	95.0	2.000
	2073.0	1.98	37.52	0	0	95.0	2.000
	2173.0	2.01	37.52	0	0	95.0	2.000
	2273.0	2.06	37.52	0	0	95.0	2.000
	2373.0	2.13	37.52	0	0	95.0	2.000
	2473.0	2.22	37.52	0	0	95.0	2.000
	2573.0	2.35	37.52	0	0	95.0	2.000
	2673.0	2.52	37.52	0	0	95.0	2.000
	2773.0	2.73	37.52	0	0	95.0	2.000
	2873.0	3.00	37.52	0	0	95.0	2.000
	2973.0	3.33	37.52	0	0	95.0	2.000
	3073.0	3.73	37.52	0	0	95.0	2.000
	673.0	2.93	46.90	0	0	95.0	2.000
	773.0	2.76	46.90	0	0	95.0	2.000
	873.0	2.62	46.90	0	0	95.0	2.000
	973.0	2.50	46.90	0	0	95.0	2.000
	1073.0	2.38	46.90	0	0	95.0	2.000
	1173.0	2.29	46.90	0	0	95.0	2.000
	1273.0	2.20	46.90	0	0	95.0	2.000
	1373.0	2.13	46.90	0	0	95.0	2.000
	1473.0	2.07	46.90	0	0	95.0	2.000
	1573.0	2.01	46.90	0	0	95.0	2.000
	1673.0	1.97	46.90	0	0	95.0	2.000
	1773.0	1.95	46.90	0	0	95.0	2.000
	1873.0	1.93	46.90	0	0	95.0	2.000
	1973.0	1.93	46.90	0	0	95.0	2.000
	2073.0	1.94	46.90	0	0	95.0	2.000
	2173.0	1.97	46.90	0	0	95.0	2.000
	2273.0	2.02	46.90	0	0	95.0	2.000
	2373.0	2.10	46.90	0	0	95.0	2.000
	2473.0	2.20	46.90	0	0	95.0	2.000
	2573.0	2.33	46.90	0	0	95.0	2.000
	2673.0	2.50	46.90	0	0	95.0	2.000
	2773.0	2.71	46.90	0	0	95.0	2.000
	2873.0	2.98	46.90	0	0	95.0	2.000
	2973.0	3.31	46.90	0	0	95.0	2.000
	3073.0	3.72	46.90	0	0	95.0	2.000
Baron and Couty (1997)							
	293.1	6.20	0	0	0	95.0	2.000
	563.0	5.23	0	0	0	95.0	2.000
	581.7	4.79	0	0	0	95.0	2.000
	636.8	4.64	0	0	0	95.0	2.000
	679.8	4.45	0	0	0	95.0	2.000
	765.6	4.20	0	0	0	95.0	2.000
	777.9	4.06	0	0	0	95.0	2.000
	845.4	3.86	0	0	0	95.0	2.000
	876.1	3.67	0	0	0	95.0	2.000
	925.1	3.52	0	0	0	95.0	2.000
	974.2	3.38	0	0	0	95.0	2.000
	1004.8	3.33	0	0	0	95.0	2.000
	1072.2	3.18	0	0	0	95.0	2.000
	1127.2	3.18	0	0	0	95.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1115.1	3.03	0	0	0	95.0	2.000
	1151.8	3.08	0	0	0	95.0	2.000
	1194.7	2.98	0	0	0	95.0	2.000
	1262.1	2.83	0	0	0	95.0	2.000
	1274.3	2.79	0	0	0	95.0	2.000
	1292.7	2.74	0	0	0	95.0	2.000
	1360.1	2.59	0	0	0	95.0	2.000
	1403.0	2.54	0	0	0	95.0	2.000
	1409.1	2.44	0	0	0	95.0	2.000
	1445.8	2.44	0	0	0	95.0	2.000
	1458.1	2.39	0	0	0	95.0	2.000
	1500.8	2.49	0	0	0	95.0	2.000
	1525.4	2.39	0	0	0	95.0	2.000
	1519.4	2.20	0	0	0	95.0	2.000
	1562.2	2.20	0	0	0	95.0	2.000
	1611.2	2.20	0	0	0	95.0	2.000
	1635.6	2.24	0	0	0	95.0	2.000
	1721.4	2.05	0	0	0	95.0	2.000
	1813.1	2.09	0	0	0	95.0	2.000
	1813.2	1.95	0	0	0	95.0	2.000
	298.4	6.26	0	0	0	95.0	2.005
	605.3	4.31	0	0	0	95.0	2.005
	642.7	4.18	0	0	0	95.0	2.005
	704.8	4.09	0	0	0	95.0	2.005
	704.8	4.05	0	0	0	95.0	2.005
	717.3	4.00	0	0	0	95.0	2.005
	754.6	3.92	0	0	0	95.0	2.005
	785.7	3.83	0	0	0	95.0	2.005
	798.3	3.70	0	0	0	95.0	2.005
	866.8	3.48	0	0	0	95.0	2.005
	885.5	3.44	0	0	0	95.0	2.005
	898.0	3.35	0	0	0	95.0	2.005
	929.2	3.22	0	0	0	95.0	2.005
	960.3	3.13	0	0	0	95.0	2.005
	991.4	3.09	0	0	0	95.0	2.005
	1003.8	3.05	0	0	0	95.0	2.005
	1034.8	3.05	0	0	0	95.0	2.005
	1065.7	3.09	0	0	0	95.0	2.005
	1072.2	2.92	0	0	0	95.0	2.005
	1097.2	2.78	0	0	0	95.0	2.005
	1140.7	2.70	0	0	0	95.0	2.005
	1159.2	2.70	0	0	0	95.0	2.005
	1190.3	2.65	0	0	0	95.0	2.005
	1208.9	2.61	0	0	0	95.0	2.005
	1233.9	2.52	0	0	0	95.0	2.005
	1258.6	2.52	0	0	0	95.0	2.005
	1295.9	2.43	0	0	0	95.0	2.005
	1327.0	2.39	0	0	0	95.0	2.005
	1395.3	2.26	0	0	0	95.0	2.005
	1432.5	2.26	0	0	0	95.0	2.005
	1488.3	2.17	0	0	0	95.0	2.005
	1519.4	2.13	0	0	0	95.0	2.005
	1606.0	2.17	0	0	0	95.0	2.005
	1637.0	2.13	0	0	0	95.0	2.005
	1661.7	2.17	0	0	0	95.0	2.005
	1742.2	2.17	0	0	0	95.0	2.005
	291.9	5.99	0	0	0	95.0	2.010
	585.7	4.25	0	0	0	95.0	2.010
	616.7	4.17	0	0	0	95.0	2.010
	672.5	4.00	0	0	0	95.0	2.010
	734.9	3.70	0	0	0	95.0	2.010
	784.4	3.58	0	0	0	95.0	2.010
	815.5	3.45	0	0	0	95.0	2.010
	938.7	3.41	0	0	0	95.0	2.010
	1001.6	2.90	0	0	0	95.0	2.010
	1087.8	2.86	0	0	0	95.0	2.010
	1161.7	2.87	0	0	0	95.0	2.010

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1204.7	2.87	0	0	0	95.0	2.010
	1186.6	2.74	0	0	0	95.0	2.010
	1279.4	2.57	0	0	0	95.0	2.010
	1341.1	2.49	0	0	0	95.0	2.010
	1366.0	2.41	0	0	0	95.0	2.010
	1514.8	1.99	0	0	0	95.0	2.010
	1539.4	1.99	0	0	0	95.0	2.010
	1564.1	1.94	0	0	0	95.0	2.010
	1619.6	1.90	0	0	0	95.0	2.010
	1675.3	1.78	0	0	0	95.0	2.010
	1693.7	1.82	0	0	0	95.0	2.010
	675.0	3.72	0	4	0	95.0	2.000
	734.2	3.67	0	4	0	95.0	2.000
	799.7	3.42	0	4	0	95.0	2.000
	793.9	3.33	0	4	0	95.0	2.000
	782.0	3.38	0	4	0	95.0	2.000
	841.2	3.36	0	4	0	95.0	2.000
	847.2	3.27	0	4	0	95.0	2.000
	876.8	3.27	0	4	0	95.0	2.000
	924.5	3.04	0	4	0	95.0	2.000
	954.1	3.02	0	4	0	95.0	2.000
	977.6	3.13	0	4	0	95.0	2.000
	1001.7	2.88	0	4	0	95.0	2.000
	1072.8	2.79	0	4	0	95.0	2.000
	1114.5	2.61	0	4	0	95.0	2.000
	1150.0	2.59	0	4	0	95.0	2.000
	1167.9	2.47	0	4	0	95.0	2.000
	1191.6	2.45	0	4	0	95.0	2.000
	1221.3	2.41	0	4	0	95.0	2.000
	1274.5	2.45	0	4	0	95.0	2.000
	1286.3	2.43	0	4	0	95.0	2.000
	1416.7	2.34	0	4	0	95.0	2.000
	1428.7	2.23	0	4	0	95.0	2.000
	1440.6	2.16	0	4	0	95.0	2.000
	1600.5	2.07	0	4	0	95.0	2.000
	1630.2	2.00	0	4	0	95.0	2.000
	542.8	3.34	0	8	0	95.0	2.000
	601.8	3.22	0	8	0	95.0	2.000
	625.4	3.22	0	8	0	95.0	2.000
	649.0	3.18	0	8	0	95.0	2.000
	708.0	3.17	0	8	0	95.0	2.000
	725.7	3.08	0	8	0	95.0	2.000
	784.7	3.08	0	8	0	95.0	2.000
	814.2	2.99	0	8	0	95.0	2.000
	855.5	2.96	0	8	0	95.0	2.000
	885.0	2.92	0	8	0	95.0	2.000
	949.9	2.78	0	8	0	95.0	2.000
	991.2	2.73	0	8	0	95.0	2.000
	1026.5	2.70	0	8	0	95.0	2.000
	1050.1	2.66	0	8	0	95.0	2.000
	1079.6	2.61	0	8	0	95.0	2.000
	1120.9	2.56	0	8	0	95.0	2.000
	1144.5	2.59	0	8	0	95.0	2.000
	1179.9	2.45	0	8	0	95.0	2.000
	1215.3	2.45	0	8	0	95.0	2.000
	1286.1	2.35	0	8	0	95.0	2.000
	1327.4	2.33	0	8	0	95.0	2.000
	1315.6	2.35	0	8	0	95.0	2.000
	1345.1	2.26	0	8	0	95.0	2.000
	1392.3	2.19	0	8	0	95.0	2.000
	1427.7	2.14	0	8	0	95.0	2.000
	1386.4	2.21	0	8	0	95.0	2.000
	1463.1	2.07	0	8	0	95.0	2.000
	1504.4	2.09	0	8	0	95.0	2.000
	1522.1	1.98	0	8	0	95.0	2.000
	619.4	2.78	0	12	0	95.0	1.995

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	642.4	2.75	0	12	0	95.0	1.995
	685.0	2.74	0	12	0	95.0	1.995
	704.8	2.68	0	12	0	95.0	1.995
	750.7	2.65	0	12	0	95.0	1.995
	773.7	2.65	0	12	0	95.0	1.995
	829.4	2.61	0	12	0	95.0	1.995
	852.3	2.64	0	12	0	95.0	1.995
	885.2	2.57	0	12	0	95.0	1.995
	924.5	2.56	0	12	0	95.0	1.995
	960.6	2.52	0	12	0	95.0	1.995
	1042.7	2.46	0	12	0	95.0	1.995
	1114.7	2.46	0	12	0	95.0	1.995
	1177.1	2.40	0	12	0	95.0	1.995
	1252.5	2.36	0	12	0	95.0	1.995
	1295.4	2.25	0	12	0	95.0	1.995
	1337.7	2.32	0	12	0	95.0	1.995
	1396.9	2.23	0	12	0	95.0	1.995
	1426.4	2.23	0	12	0	95.0	1.995
	1513.3	1.70	0	12	0	95.0	1.995
	1546.0	1.70	0	12	0	95.0	1.995
	1578.5	1.77	0	12	0	95.0	1.995
	1624.4	1.76	0	12	0	95.0	1.995
	1634.2	1.74	0	12	0	95.0	1.995
	1650.7	1.72	0	12	0	95.0	1.995
	1664.0	1.65	0	12	0	95.0	1.995
	1666.8	1.78	0	12	0	95.0	1.995
	1739.1	1.70	0	12	0	95.0	1.995
	665.0	2.74	0	12	0	95.0	2.005
	740.2	2.80	0	12	0	95.0	2.005
	845.3	2.62	0	12	0	95.0	2.005
	868.4	2.54	0	12	0	95.0	2.005
	921.0	2.44	0	12	0	95.0	2.005
	953.8	2.43	0	12	0	95.0	2.005
	1045.2	2.53	0	12	0	95.0	2.005
	1104.1	2.52	0	12	0	95.0	2.005
	1143.7	2.42	0	12	0	95.0	2.005
	1173.1	2.45	0	12	0	95.0	2.005
	1209.1	2.42	0	12	0	95.0	2.005
	1241.9	2.39	0	12	0	95.0	2.005
	1307.5	2.34	0	12	0	95.0	2.005
	1359.8	2.35	0	12	0	95.0	2.005
	1392.7	2.31	0	12	0	95.0	2.005
	1412.3	2.31	0	12	0	95.0	2.005
	1464.8	2.24	0	12	0	95.0	2.005
	1510.6	2.25	0	12	0	95.0	2.005
	1540.1	2.25	0	12	0	95.0	2.005
	1572.8	2.25	0	12	0	95.0	2.005
	1602.4	2.22	0	12	0	95.0	2.005
	1631.9	2.18	0	12	0	95.0	2.005
	1651.6	2.15	0	12	0	95.0	2.005
	1677.9	2.10	0	12	0	95.0	2.005
	1707.4	2.10	0	12	0	95.0	2.005
	550.8	2.97	0	12	0	95.0	2.013
	578.6	2.87	0	12	0	95.0	2.013
	666.4	2.84	0	12	0	95.0	2.013
	674.6	2.84	0	12	0	95.0	2.013
	710.6	2.73	0	12	0	95.0	2.013
	770.9	2.73	0	12	0	95.0	2.013
	823.5	2.57	0	12	0	95.0	2.013
	862.1	2.50	0	12	0	95.0	2.013
	903.5	2.42	0	12	0	95.0	2.013
	939.1	2.42	0	12	0	95.0	2.013
	991.3	2.39	0	12	0	95.0	2.013
	1016.1	2.35	0	12	0	95.0	2.013
	1049.1	2.33	0	12	0	95.0	2.013
	1074.1	2.22	0	12	0	95.0	2.013
	1104.2	2.23	0	12	0	95.0	2.013

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1164.4	2.26	0	12	0	95.0	2.013
	1194.7	2.21	0	12	0	95.0	2.013
	1232.9	2.26	0	12	0	95.0	2.013
	1274.3	2.16	0	12	0	95.0	2.013
	1315.4	2.16	0	12	0	95.0	2.013
	1339.9	2.21	0	12	0	95.0	2.013
	1389.6	2.12	0	12	0	95.0	2.013
	1389.4	2.16	0	12	0	95.0	2.013
	1436.2	2.11	0	12	0	95.0	2.013
	1480.2	2.06	0	12	0	95.0	2.013
	1494.2	1.97	0	12	0	95.0	2.013
	1532.5	1.98	0	12	0	95.0	2.013
	1576.4	1.97	0	12	0	95.0	2.013
	1603.7	1.98	0	12	0	95.0	2.013
	1644.8	1.98	0	12	0	95.0	2.013
Topliss et al. (1997)							
	670.7	4.86	0	0	0.0	95.0	2.000
	670.8	5.10	0	0	0.0	95.0	2.000
	869.9	4.14	0	0	0.0	95.0	2.000
	869.9	4.25	0	0	0.0	95.0	2.000
	1071.0	3.51	0	0	0.0	95.0	2.000
	1071.0	3.68	0	0	0.0	95.0	2.000
	1270.2	3.14	0	0	0.0	95.0	2.000
	1272.1	3.07	0	0	0.0	95.0	2.000
	1467.5	2.79	0	0	0.0	95.0	2.000
	1471.3	2.70	0	0	0.0	95.0	2.000
	1670.5	2.42	0	0	0.0	95.0	2.000
	1670.5	2.37	0	0	0.0	95.0	2.000
	1875.5	2.15	0	0	0.0	95.0	2.000
	675.7	4.32	0	0	9.91	95.0	2.000
	677.7	4.59	0	0	9.91	95.0	2.000
	675.6	4.89	0	0	9.91	95.0	2.000
	876.6	3.64	0	0	9.91	95.0	2.000
	876.6	3.85	0	0	9.91	95.0	2.000
	874.6	4.03	0	0	9.91	95.0	2.000
	1073.5	3.08	0	0	9.91	95.0	2.000
	1073.5	3.33	0	0	9.91	95.0	2.000
	1272.4	2.69	0	0	9.91	95.0	2.000
	1268.4	2.83	0	0	9.91	95.0	2.000
	1469.2	2.42	0	0	9.91	95.0	2.000
	1467.2	2.51	0	0	9.91	95.0	2.000
	1670.0	2.17	0	0	9.91	95.0	2.000
	1668.0	2.29	0	0	9.91	95.0	2.000
	1874.7	1.97	0	0	9.91	95.0	2.000
	1872.8	2.04	0	0	9.91	95.0	2.000
	675.3	3.93	0	0	9.91	95.0	2.020
	674.3	3.99	0	0	9.91	95.0	2.020
	675.3	4.14	0	0	9.91	95.0	2.020
	675.3	4.19	0	0	9.91	95.0	2.020
	874.5	3.25	0	0	9.91	95.0	2.020
	874.5	3.31	0	0	9.91	95.0	2.020
	873.5	3.38	0	0	9.91	95.0	2.020
	874.5	3.49	0	0	9.91	95.0	2.020
	1072.8	2.80	0	0	9.91	95.0	2.020
	1071.8	2.87	0	0	9.91	95.0	2.020
	1072.8	2.93	0	0	9.91	95.0	2.020
	1270.1	2.49	0	0	9.91	95.0	2.020
	1271.0	2.55	0	0	9.91	95.0	2.020
	1270.1	2.61	0	0	9.91	95.0	2.020
	1472.2	2.31	0	0	9.91	95.0	2.020
	1473.2	2.37	0	0	9.91	95.0	2.020
	1471.2	2.41	0	0	9.91	95.0	2.020
Amaya et al. (1997)							
	300.5	4.49	43.10	0	0	95.0	2.000
	454.1	4.15	43.10	0	0	95.0	2.000
	663.7	3.64	43.10	0	0	95.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	789.4	3.30	43.10	0	0	95.0	2.000
	454.3	4.55	43.10	0	0	95.0	2.000
	454.4	4.68	43.10	0	0	95.0	2.000
	659.2	3.94	43.10	0	0	95.0	2.000
	659.2	4.07	43.10	0	0	95.0	2.000
	868.7	3.39	43.10	0	0	95.0	2.000
	868.6	3.23	43.10	0	0	95.0	2.000
	873.2	3.06	43.10	0	0	95.0	2.000
	975.8	2.99	43.10	0	0	95.0	2.000
	1073.7	2.98	43.10	0	0	95.0	2.000
	1073.6	2.78	43.10	0	0	95.0	2.000
	1162.2	2.88	43.10	0	0	95.0	2.000
	1264.6	2.64	43.10	0	0	95.0	2.000
	1367.2	2.61	43.10	0	0	95.0	2.000
	1474.4	2.53	43.10	0	0	95.0	2.000
	1474.3	2.33	43.10	0	0	95.0	2.000
	1567.5	2.36	43.10	0	0	95.0	2.000
	1665.3	2.06	43.10	0	0	95.0	2.000
	1767.9	2.05	43.10	0	0	95.0	2.000
	1865.8	2.05	43.10	0	0	95.0	2.000
	465.3	2.84	42.70	0	0	95.0	2.000
	562.8	2.72	42.70	0	0	95.0	2.000
	668.9	2.59	42.70	0	0	95.0	2.000
	974.6	2.55	42.70	0	0	95.0	2.000
	1072.2	2.55	42.70	0	0	95.0	2.000
	1161.4	2.58	42.70	0	0	95.0	2.000
	1263.3	2.55	42.70	0	0	95.0	2.000
	1365.2	2.51	42.70	0	0	95.0	2.000
	1475.5	2.42	42.70	0	0	95.0	2.000
	1564.5	2.23	42.70	0	0	95.0	2.000
	1666.3	2.05	42.70	0	0	95.0	2.000
	1768.1	1.95	42.70	0	0	95.0	2.000
	1869.9	1.86	42.70	0	0	95.0	2.000
	461.7	3.66	42.70	0	0	95.0	2.000
	458.2	4.51	42.70	0	0	95.0	2.000
	661.3	3.69	42.70	0	0	95.0	2.000
	665.1	3.17	42.70	0	0	95.0	2.000
	872.7	2.62	42.70	0	0	95.0	2.000
	872.9	2.86	42.70	0	0	95.0	2.000
	868.9	3.17	42.70	0	0	95.0	2.000
	868.9	3.10	42.70	0	0	95.0	2.000
	465.4	2.84	43.00	0	0	95.0	2.000
	566.1	2.72	43.00	0	0	95.0	2.000
	671.2	2.61	43.00	0	0	95.0	2.000
	675.5	2.61	43.00	0	0	95.0	2.000
	771.8	2.53	43.00	0	0	95.0	2.000
	876.4	2.63	43.00	0	0	95.0	2.000
	871.5	2.85	43.00	0	0	95.0	2.000
	871.0	3.06	43.00	0	0	95.0	2.000
	875.1	3.19	43.00	0	0	95.0	2.000
	875.6	2.97	43.00	0	0	95.0	2.000
	870.8	3.16	43.00	0	0	95.0	2.000
	870.4	3.37	43.00	0	0	95.0	2.000
	787.6	3.27	43.00	0	0	95.0	2.000
	665.6	3.17	43.00	0	0	95.0	2.000
	664.5	3.66	43.00	0	0	95.0	2.000
	660.3	3.60	43.00	0	0	95.0	2.000
	660.1	3.66	43.00	0	0	95.0	2.000
	659.5	3.94	43.00	0	0	95.0	2.000
	659.2	4.10	43.00	0	0	95.0	2.000
	463.7	3.65	43.00	0	0	95.0	2.000
	554.9	3.87	43.00	0	0	95.0	2.000
	453.8	4.17	43.00	0	0	95.0	2.000
	461.8	4.52	43.00	0	0	95.0	2.000
	448.7	4.48	43.00	0	0	95.0	2.000
	452.7	4.67	43.00	0	0	95.0	2.000
	300.2	4.50	43.00	0	0	95.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	976.0	2.98	43.00	0	0	95.0	2.000
	976.9	2.58	43.00	0	0	95.0	2.000
	1077.4	2.55	43.00	0	0	95.0	2.000
	1072.4	2.83	43.00	0	0	95.0	2.000
	1072.1	2.96	43.00	0	0	95.0	2.000
	1159.7	2.87	43.00	0	0	95.0	2.000
	1164.7	2.56	43.00	0	0	95.0	2.000
	1260.6	2.66	43.00	0	0	95.0	2.000
	1265.3	2.51	43.00	0	0	95.0	2.000
	1370.1	2.49	43.00	0	0	95.0	2.000
	1365.5	2.61	43.00	0	0	95.0	2.000
	1473.3	2.57	43.00	0	0	95.0	2.000
	1473.7	2.39	43.00	0	0	95.0	2.000
	1466.6	2.31	43.00	0	0	95.0	2.000
	1568.7	2.22	43.00	0	0	95.0	2.000
	1564.6	2.40	43.00	0	0	95.0	2.000
	1667.4	2.02	43.00	0	0	95.0	2.000
	1663.5	2.10	43.00	0	0	95.0	2.000
	1769.1	2.08	43.00	0	0	95.0	2.000
	1765.8	1.92	43.00	0	0	95.0	2.000
	1867.9	1.83	43.00	0	0	95.0	2.000
	1863.8	2.04	43.00	0	0	95.0	2.000
	466.2	2.80	43.00	0	0	95.0	2.000
	565.7	2.68	43.00	0	0	95.0	2.000
	671.0	2.60	43.00	0	0	95.0	2.000
	776.3	2.52	43.00	0	0	95.0	2.000
	875.7	2.60	43.00	0	0	95.0	2.000
	1074.5	2.52	43.00	0	0	95.0	2.000
	1168.1	2.52	43.00	0	0	95.0	2.000
	975.1	2.52	43.00	0	0	95.0	2.000
	301.5	4.51	43.00	0	0	95.0	2.000
	453.7	4.18	43.00	0	0	95.0	2.000
	547.4	3.89	43.00	0	0	95.0	2.000
	658.7	3.64	43.00	0	0	95.0	2.000
	787.6	3.27	43.00	0	0	95.0	2.000
	875.4	3.02	43.00	0	0	95.0	2.000
	869.5	3.14	43.00	0	0	95.0	2.000
	974.9	2.94	43.00	0	0	95.0	2.000
	1074.4	2.86	43.00	0	0	95.0	2.000
	1162.1	2.86	43.00	0	0	95.0	2.000
	443.1	4.49	43.00	0	0	95.0	2.000
	454.8	4.49	43.00	0	0	95.0	2.000
	653.1	4.04	43.00	0	0	95.0	2.000
	658.9	3.67	43.00	0	0	95.0	2.000
	868.8	3.09	43.00	0	0	95.0	2.000
	868.8	3.17	43.00	0	0	95.0	2.000
	863.0	3.38	43.00	0	0	95.0	2.000
	1067.1	2.93	43.00	0	0	95.0	2.000
	1475.2	2.48	43.00	0	0	95.0	2.000
	1568.5	2.19	43.00	0	0	95.0	2.000
	1568.5	2.36	43.00	0	0	95.0	2.000
	1667.6	2.03	43.00	0	0	95.0	2.000
	1667.6	2.11	43.00	0	0	95.0	2.000
	1766.8	1.95	43.00	0	0	95.0	2.000
	1760.9	2.07	43.00	0	0	95.0	2.000
	1871.7	1.82	43.00	0	0	95.0	2.000
	1865.9	2.03	43.00	0	0	95.0	2.000
Sheindlin et al. (1998)†							
	569.2	5.10	0	0	0	96.0	2.000
	587.0	4.96	0	0	0	96.0	2.000
	569.0	4.90	0	0	0	96.0	2.000
	573.7	4.90	0	0	0	96.0	2.000
	578.3	4.86	0	0	0	96.0	2.000
	578.3	4.83	0	0	0	96.0	2.000
	570.5	4.82	0	0	0	96.0	2.000
	575.1	4.75	0	0	0	96.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	616.3	4.72	0	0	0	96.0	2.000
	616.3	4.67	0	0	0	96.0	2.000
	614.7	4.64	0	0	0	96.0	2.000
	616.2	4.61	0	0	0	96.0	2.000
	621.7	4.67	0	0	0	96.0	2.000
	611.6	4.69	0	0	0	96.0	2.000
	609.2	4.63	0	0	0	96.0	2.000
	667.5	4.55	0	0	0	96.0	2.000
	690.0	4.53	0	0	0	96.0	2.000
	675.2	4.46	0	0	0	96.0	2.000
	690.6	4.33	0	0	0	96.0	2.000
	686.7	4.32	0	0	0	96.0	2.000
	690.6	4.29	0	0	0	96.0	2.000
	713.3	4.40	0	0	0	96.0	2.000
	727.1	4.21	0	0	0	96.0	2.000
	731.8	4.20	0	0	0	96.0	2.000
	738.0	4.18	0	0	0	96.0	2.000
	739.6	4.21	0	0	0	96.0	2.000
	755.9	4.20	0	0	0	96.0	2.000
	751.2	4.13	0	0	0	96.0	2.000
	761.3	4.14	0	0	0	96.0	2.000
	772.9	4.07	0	0	0	96.0	2.000
	771.3	4.01	0	0	0	96.0	2.000
	771.3	3.98	0	0	0	96.0	2.000
	777.5	3.99	0	0	0	96.0	2.000
	791.4	3.91	0	0	0	96.0	2.000
	807.1	3.97	0	0	0	96.0	2.000
	824.1	3.89	0	0	0	96.0	2.000
	828.0	3.87	0	0	0	96.0	2.000
	845.0	3.80	0	0	0	96.0	2.000
	862.2	3.80	0	0	0	96.0	2.000
	845.8	3.74	0	0	0	96.0	2.000
	846.5	3.69	0	0	0	96.0	2.000
	880.8	3.68	0	0	0	96.0	2.000
	892.4	3.67	0	0	0	96.0	2.000
	910.3	3.65	0	0	0	96.0	2.000
	901.7	3.62	0	0	0	96.0	2.000
	904.8	3.60	0	0	0	96.0	2.000
	925.0	3.56	0	0	0	96.0	2.000
	937.5	3.54	0	0	0	96.0	2.000
	953.7	3.46	0	0	0	96.0	2.000
	979.3	3.34	0	0	0	96.0	2.000
	988.7	3.36	0	0	0	96.0	2.000
	1015.1	3.28	0	0	0	96.0	2.000
	1032.2	3.26	0	0	0	96.0	2.000
	1050.8	3.22	0	0	0	96.0	2.000
	1081.2	3.16	0	0	0	96.0	2.000
Ronchi et al. (1999)							
	568.0	5.23	0	0	0	95.0	2.002
	569.0	5.02	0	0	0	95.0	2.002
	572.0	4.99	0	0	0	95.0	2.002
	572.0	4.93	0	0	0	95.0	2.002
	575.0	4.88	0	0	0	95.0	2.002
	577.0	4.97	0	0	0	95.0	2.002
	578.0	4.94	0	0	0	95.0	2.002
	586.0	5.06	0	0	0	95.0	2.002
	611.0	4.72	0	0	0	95.0	2.002
	611.0	4.78	0	0	0	95.0	2.002
	612.0	4.72	0	0	0	95.0	2.002
	612.0	4.72	0	0	0	95.0	2.002
	613.0	4.78	0	0	0	95.0	2.002
	613.0	4.72	0	0	0	95.0	2.002
	614.0	4.69	0	0	0	95.0	2.002
	614.0	4.69	0	0	0	95.0	2.002
	614.0	4.72	0	0	0	95.0	2.002
	614.0	4.75	0	0	0	95.0	2.002

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	614.0	4.72	0	0	0	95.0	2.002
	614.0	4.75	0	0	0	95.0	2.002
	614.0	4.78	0	0	0	95.0	2.002
	615.0	4.75	0	0	0	95.0	2.002
	615.0	4.69	0	0	0	95.0	2.002
	615.0	4.72	0	0	0	95.0	2.002
	615.0	4.69	0	0	0	95.0	2.002
	615.0	4.69	0	0	0	95.0	2.002
	615.0	4.72	0	0	0	95.0	2.002
	615.0	4.75	0	0	0	95.0	2.002
	621.0	4.76	0	0	0	95.0	2.002
	668.0	4.60	0	0	0	95.0	2.002
	674.0	4.51	0	0	0	95.0	2.002
	687.0	4.37	0	0	0	95.0	2.002
	689.0	4.37	0	0	0	95.0	2.002
	690.0	4.58	0	0	0	95.0	2.002
	691.0	4.34	0	0	0	95.0	2.002
	712.0	4.44	0	0	0	95.0	2.002
	728.0	4.23	0	0	0	95.0	2.002
	732.0	4.23	0	0	0	95.0	2.002
	737.0	4.21	0	0	0	95.0	2.002
	738.0	4.24	0	0	0	95.0	2.002
	750.0	4.15	0	0	0	95.0	2.002
	755.0	4.21	0	0	0	95.0	2.002
	761.0	4.15	0	0	0	95.0	2.002
	771.0	4.03	0	0	0	95.0	2.002
	772.0	4.06	0	0	0	95.0	2.002
	772.0	4.00	0	0	0	95.0	2.002
	773.0	4.00	0	0	0	95.0	2.002
	776.0	4.00	0	0	0	95.0	2.002
	791.0	3.92	0	0	0	95.0	2.002
	807.0	3.98	0	0	0	95.0	2.002
	823.0	3.90	0	0	0	95.0	2.002
	826.0	3.87	0	0	0	95.0	2.002
	845.0	3.78	0	0	0	95.0	2.002
	845.0	3.72	0	0	0	95.0	2.002
	846.0	3.69	0	0	0	95.0	2.002
	861.0	3.78	0	0	0	95.0	2.002
	880.0	3.67	0	0	0	95.0	2.002
	893.0	3.64	0	0	0	95.0	2.002
	902.0	3.51	0	0	0	95.0	2.002
	903.0	3.58	0	0	0	95.0	2.002
	911.0	3.62	0	0	0	95.0	2.002
	925.0	3.53	0	0	0	95.0	2.002
	938.0	3.50	0	0	0	95.0	2.002
	953.0	3.44	0	0	0	95.0	2.002
	978.0	3.33	0	0	0	95.0	2.002
	981.0	3.33	0	0	0	95.0	2.002
	989.0	3.33	0	0	0	95.0	2.002
	1010.0	3.28	0	0	0	95.0	2.002
	1032.0	3.25	0	0	0	95.0	2.002
	1051.0	3.20	0	0	0	95.0	2.002
	1081.0	3.15	0	0	0	95.0	2.002
	1889.0	1.92	0	0	0	95.0	2.002
	1997.0	2.21	0	0	0	95.0	2.002
	1998.0	2.07	0	0	0	95.0	2.002
	2020.0	2.03	0	0	0	95.0	2.002
	2059.0	2.02	0	0	0	95.0	2.002
	2060.0	1.87	0	0	0	95.0	2.002
	2094.0	1.93	0	0	0	95.0	2.002
	2095.0	1.79	0	0	0	95.0	2.002
	2122.0	2.13	0	0	0	95.0	2.002
	2123.0	2.12	0	0	0	95.0	2.002
	2147.0	2.21	0	0	0	95.0	2.002
	2178.0	2.46	0	0	0	95.0	2.002
	2180.0	2.12	0	0	0	95.0	2.002
	2180.0	2.40	0	0	0	95.0	2.002

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	2197.0	2.19	0	0	0	95.0	2.002
	2197.0	2.16	0	0	0	95.0	2.002
	2238.0	2.18	0	0	0	95.0	2.002
	2268.0	2.11	0	0	0	95.0	2.002
	2268.0	2.14	0	0	0	95.0	2.002
	2272.0	1.82	0	0	0	95.0	2.002
	2299.0	2.24	0	0	0	95.0	2.002
	2299.0	2.29	0	0	0	95.0	2.002
	2355.0	1.96	0	0	0	95.0	2.002
	2394.0	2.02	0	0	0	95.0	2.002
	2394.0	2.18	0	0	0	95.0	2.002
	2396.0	2.44	0	0	0	95.0	2.002
	2425.0	2.00	0	0	0	95.0	2.002
	2429.0	2.01	0	0	0	95.0	2.002
	2438.0	1.98	0	0	0	95.0	2.002
	2438.0	2.37	0	0	0	95.0	2.002
	2456.0	2.28	0	0	0	95.0	2.002
	2457.0	2.22	0	0	0	95.0	2.002
	2500.0	2.35	0	0	0	95.0	2.002
	2500.0	2.23	0	0	0	95.0	2.002
	2500.0	2.26	0	0	0	95.0	2.002
	2501.0	1.98	0	0	0	95.0	2.002
	2504.0	2.11	0	0	0	95.0	2.002
	2545.0	2.59	0	0	0	95.0	2.002
	2561.0	1.99	0	0	0	95.0	2.002
	2623.0	2.21	0	0	0	95.0	2.002
	2628.0	2.26	0	0	0	95.0	2.002
	2632.0	2.53	0	0	0	95.0	2.002
	2634.0	2.08	0	0	0	95.0	2.002
	2638.0	2.21	0	0	0	95.0	2.002
	2640.0	2.13	0	0	0	95.0	2.002
	2669.0	2.38	0	0	0	95.0	2.002
	2672.0	2.43	0	0	0	95.0	2.002
	2677.0	2.48	0	0	0	95.0	2.002
	2682.0	2.59	0	0	0	95.0	2.002
	2768.0	2.68	0	0	0	95.0	2.002
	2782.0	2.48	0	0	0	95.0	2.002
	2786.0	2.87	0	0	0	95.0	2.002
	2802.0	2.77	0	0	0	95.0	2.002
	2873.0	2.79	0	0	0	95.0	2.002
Musella (1999)							
	562.6	5.22	0	0	0	95.0	2.002
	579.4	5.06	0	0	0	95.0	2.002
	567.7	4.99	0	0	0	95.0	2.002
	567.5	4.93	0	0	0	95.0	2.002
	573.0	4.86	0	0	0	95.0	2.002
	624.6	4.76	0	0	0	95.0	2.002
	612.9	4.69	0	0	0	95.0	2.002
	670.3	4.61	0	0	0	95.0	2.002
	693.2	4.57	0	0	0	95.0	2.002
	675.7	4.51	0	0	0	95.0	2.002
	715.8	4.43	0	0	0	95.0	2.002
	692.6	4.36	0	0	0	95.0	2.002
	698.3	4.34	0	0	0	95.0	2.002
	738.3	4.22	0	0	0	95.0	2.002
	755.5	4.20	0	0	0	95.0	2.002
	761.1	4.15	0	0	0	95.0	2.002
	778.1	4.05	0	0	0	95.0	2.002
	772.2	3.99	0	0	0	95.0	2.002
	806.7	3.98	0	0	0	95.0	2.002
	789.2	3.90	0	0	0	95.0	2.002
	829.4	3.85	0	0	0	95.0	2.002
	857.9	3.77	0	0	0	95.0	2.002
	846.1	3.67	0	0	0	95.0	2.002
	886.4	3.64	0	0	0	95.0	2.002
	915.0	3.60	0	0	0	95.0	2.002

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	909.2	3.56	0	0	0	95.0	2.002
	926.4	3.53	0	0	0	95.0	2.002
	943.5	3.48	0	0	0	95.0	2.002
	960.7	3.44	0	0	0	95.0	2.002
	989.1	3.32	0	0	0	95.0	2.002
	1023.6	3.28	0	0	0	95.0	2.002
	1035.0	3.25	0	0	0	95.0	2.002
	1052.1	3.19	0	0	0	95.0	2.002
	1075.0	3.13	0	0	0	95.0	2.002
	1798.1	2.21	0	0	0	95.0	2.002
	1883.7	1.92	0	0	0	95.0	2.002
	1993.9	2.19	0	0	0	95.0	2.002
	1999.3	2.06	0	0	0	95.0	2.002
	2010.7	2.02	0	0	0	95.0	2.002
	2056.8	2.03	0	0	0	95.0	2.002
	2091.1	1.93	0	0	0	95.0	2.002
	2062.1	1.86	0	0	0	95.0	2.002
	2096.4	1.78	0	0	0	95.0	2.002
	2263.6	1.83	0	0	0	95.0	2.002
	2350.4	1.96	0	0	0	95.0	2.002
	2385.1	2.02	0	0	0	95.0	2.002
	2431.2	2.01	0	0	0	95.0	2.002
	2442.6	1.98	0	0	0	95.0	2.002
	2500.2	1.97	0	0	0	95.0	2.002
	2552.1	1.99	0	0	0	95.0	2.002
	2500.6	2.11	0	0	0	95.0	2.002
	2633.0	2.08	0	0	0	95.0	2.002
	2638.9	2.13	0	0	0	95.0	2.002
	2639.1	2.21	0	0	0	95.0	2.002
	2610.3	2.21	0	0	0	95.0	2.002
	2627.8	2.26	0	0	0	95.0	2.002
	2126.2	2.12	0	0	0	95.0	2.002
	2143.8	2.21	0	0	0	95.0	2.002
	2178.0	2.11	0	0	0	95.0	2.002
	2189.6	2.14	0	0	0	95.0	2.002
	2195.5	2.19	0	0	0	95.0	2.002
	2195.7	2.26	0	0	0	95.0	2.002
	2235.9	2.19	0	0	0	95.0	2.002
	2258.7	2.13	0	0	0	95.0	2.002
	2299.4	2.24	0	0	0	95.0	2.002
	2299.5	2.29	0	0	0	95.0	2.002
	2178.9	2.41	0	0	0	95.0	2.002
	2179.0	2.46	0	0	0	95.0	2.002
	2392.1	2.44	0	0	0	95.0	2.002
	2438.0	2.36	0	0	0	95.0	2.002
	2495.5	2.35	0	0	0	95.0	2.002
	2455.0	2.28	0	0	0	95.0	2.002
	2454.8	2.22	0	0	0	95.0	2.002
	2501.0	2.24	0	0	0	95.0	2.002
	2391.4	2.19	0	0	0	95.0	2.002
	2668.5	2.39	0	0	0	95.0	2.002
	2668.5	2.42	0	0	0	95.0	2.002
	2680.3	2.50	0	0	0	95.0	2.002
	2783.9	2.48	0	0	0	95.0	2.002
	2628.5	2.53	0	0	0	95.0	2.002
	2594.2	2.59	0	0	0	95.0	2.002
	2542.3	2.60	0	0	0	95.0	2.002
	2669.0	2.59	0	0	0	95.0	2.002
	2767.2	2.68	0	0	0	95.0	2.002
	2796.3	2.77	0	0	0	95.0	2.002
	2779.3	2.87	0	0	0	95.0	2.002
	2796.4	2.82	0	0	0	95.0	2.002
	2871.2	2.79	0	0	0	95.0	2.002
Yagnik (2000)							
	570.4	5.60	0.00	0	0	96.6	2.000
	579.4	5.62	0.00	0	0	96.6	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	668.0	5.08	0.00	0	0	96.6	2.000
	672.5	5.08	0.00	0	0	96.6	2.000
	775.2	4.68	0.00	0	0	96.6	2.000
	779.4	4.58	0.00	0	0	96.6	2.000
	980.9	3.93	0.00	0	0	96.6	2.000
	976.3	3.89	0.00	0	0	96.6	2.000
	1178.3	3.36	0.00	0	0	96.6	2.000
	1173.5	3.25	0.00	0	0	96.6	2.000
	1371.3	2.82	0.00	0	0	96.6	2.000
	1371.5	2.91	0.00	0	0	96.6	2.000
	1578.5	2.55	0.00	0	0	96.6	2.000
	1578.6	2.57	0.00	0	0	96.6	2.000
	1772.4	2.35	0.00	0	0	96.6	2.000
	1772.3	2.30	0.00	0	0	96.6	2.000
	576.8	3.20	23.00	0	0	96.6	2.000
	680.2	3.05	23.00	0	0	96.6	2.000
	770.2	2.93	23.00	0	0	96.6	2.000
	873.8	2.79	23.00	0	0	96.6	2.000
	977.4	2.66	23.00	0	0	96.6	2.000
	1076.7	2.59	23.00	0	0	96.6	2.000
	1171.3	2.47	23.00	0	0	96.6	2.000
	1279.5	2.35	23.00	0	0	96.6	2.000
	1374.4	2.29	23.00	0	0	96.6	2.000
	1478.1	2.18	23.00	0	0	96.6	2.000
	1573.0	2.15	23.00	0	0	96.6	2.000
	1672.3	2.11	23.00	0	0	96.6	2.000
	1771.7	2.10	23.00	0	0	96.6	2.000
	775.4	3.18	23.00	0	0	96.6	2.000
	874.4	3.00	23.00	0	0	96.6	2.000
	973.4	2.83	23.00	0	0	96.6	2.000
	1081.4	2.68	23.00	0	0	96.6	2.000
	1180.6	2.54	23.00	0	0	96.6	2.000
	1275.1	2.37	23.00	0	0	96.6	2.000
	1374.4	2.29	23.00	0	0	96.6	2.000
	1478.1	2.18	23.00	0	0	96.6	2.000
	1573.0	2.15	23.00	0	0	96.6	2.000
	1667.8	2.12	23.00	0	0	96.6	2.000
	1771.7	2.07	23.00	0	0	96.6	2.000
	575.2	4.20	23.00	0	0	96.6	2.000
	673.6	3.90	23.00	0	0	96.6	2.000
	776.7	3.63	23.00	0	0	96.6	2.000
	884.5	3.39	23.00	0	0	96.6	2.000
	978.9	3.19	23.00	0	0	96.6	2.000
	1077.8	2.99	23.00	0	0	96.6	2.000
	1181.3	2.82	23.00	0	0	96.6	2.000
	1374.9	2.51	23.00	0	0	96.6	2.000
	1577.8	2.26	23.00	0	0	96.6	2.000
	1577.8	2.26	23.00	0	0	96.6	2.000
	577.9	3.40	23.00	0	0	96.6	2.000
	678.0	3.19	23.00	0	0	96.6	2.000
	778.6	3.01	23.00	0	0	96.6	2.000
	879.4	2.88	23.00	0	0	96.6	2.000
	977.1	2.73	23.00	0	0	96.6	2.000
	1072.0	2.64	23.00	0	0	96.6	2.000
	1169.9	2.52	23.00	0	0	96.6	2.000
	1267.9	2.41	23.00	0	0	96.6	2.000
	1375.6	2.33	23.00	0	0	96.6	2.000
	1470.4	2.22	23.00	0	0	96.6	2.000
	1575.0	2.15	23.00	0	0	96.6	2.000
	1673.5	2.14	23.00	0	0	96.6	2.000
	1775.1	2.12	23.00	0	0	96.6	2.000
	1867.0	2.08	23.00	0	0	96.6	2.000
	572.5	3.54	23.00	0	0	96.6	2.000
	682.0	3.32	23.00	0	0	96.6	2.000
	773.0	3.14	23.00	0	0	96.6	2.000
	879.9	2.96	23.00	0	0	96.6	2.000
	977.4	2.79	23.00	0	0	96.6	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1075.2	2.65	23.00	0	0	96.6	2.000
	1176.4	2.55	23.00	0	0	96.6	2.000
	1271.2	2.43	23.00	0	0	96.6	2.000
	1372.5	2.34	23.00	0	0	96.6	2.000
	1464.1	2.23	23.00	0	0	96.6	2.000
	1578.2	2.16	23.00	0	0	96.6	2.000
	1676.6	2.14	23.00	0	0	96.6	2.000
	1772.0	2.14	23.00	0	0	96.6	2.000
	774.0	3.31	23.00	0	0	96.6	2.000
	871.2	3.10	23.00	0	0	96.6	2.000
	978.2	2.92	23.00	0	0	96.6	2.000
	1075.8	2.76	23.00	0	0	96.6	2.000
	1176.7	2.59	23.00	0	0	96.6	2.000
	572.2	4.51	23.00	0	0	96.6	2.000
	584.7	4.48	23.00	0	0	96.6	2.000
	581.2	4.44	23.00	0	0	96.6	2.000
	677.3	4.10	23.00	0	0	96.6	2.000
	677.2	4.08	23.00	0	0	96.6	2.000
	780.3	3.83	23.00	0	0	96.6	2.000
	780.0	3.79	23.00	0	0	96.6	2.000
	877.1	3.55	23.00	0	0	96.6	2.000
	883.3	3.53	23.00	0	0	96.6	2.000
	977.3	3.31	23.00	0	0	96.6	2.000
	980.4	3.29	23.00	0	0	96.6	2.000
	1074.7	3.11	23.00	0	0	96.6	2.000
	1178.5	2.90	23.00	0	0	96.6	2.000
	1181.5	2.88	23.00	0	0	96.6	2.000
	1376.9	2.56	23.00	0	0	96.6	2.000
	1376.7	2.53	23.00	0	0	96.6	2.000
	1572.7	2.32	23.00	0	0	96.6	2.000
	1575.7	2.28	23.00	0	0	96.6	2.000
	1670.7	2.20	23.00	0	0	96.6	2.000
	1775.2	2.14	23.00	0	0	96.6	2.000
	570.8	2.80	38.00	0	0	96.6	2.000
	571.0	2.82	38.00	0	0	96.6	2.000
	679.8	2.74	38.00	0	0	96.6	2.000
	679.7	2.72	38.00	0	0	96.6	2.000
	782.2	2.61	38.00	0	0	96.6	2.000
	881.9	2.51	38.00	0	0	96.6	2.000
	987.8	2.41	38.00	0	0	96.6	2.000
	1084.5	2.33	38.00	0	0	96.6	2.000
	1178.2	2.28	38.00	0	0	96.6	2.000
	1271.9	2.21	38.00	0	0	96.6	2.000
	1275.2	2.24	38.00	0	0	96.6	2.000
	1372.0	2.17	38.00	0	0	96.6	2.000
	1381.2	2.13	38.00	0	0	96.6	2.000
	1375.0	2.15	38.00	0	0	96.6	2.000
	1478.2	2.10	38.00	0	0	96.6	2.000
	1475.2	2.13	38.00	0	0	96.6	2.000
	1578.3	2.07	38.00	0	0	96.6	2.000
	1675.0	1.98	38.00	0	0	96.6	2.000
	1775.1	1.96	38.00	0	0	96.6	2.000
	1878.1	1.91	38.00	0	0	96.6	2.000
	1878.5	1.97	38.00	0	0	96.6	2.000
	1784.8	2.02	38.00	0	0	96.6	2.000
	1769.6	2.09	38.00	0	0	96.6	2.000
	1675.3	2.03	38.00	0	0	96.6	2.000
	1675.4	2.06	38.00	0	0	96.6	2.000
	1672.5	2.09	38.00	0	0	96.6	2.000
	1672.5	2.10	38.00	0	0	96.6	2.000
	1676.0	2.15	38.00	0	0	96.6	2.000
	1575.6	2.13	38.00	0	0	96.6	2.000
	1575.8	2.17	38.00	0	0	96.6	2.000
	1178.8	2.37	38.00	0	0	96.6	2.000
	1073.0	2.49	38.00	0	0	96.6	2.000
	1076.0	2.47	38.00	0	0	96.6	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	979.6	2.59	38.00	0	0	96.6	2.000
	982.8	2.61	38.00	0	0	96.6	2.000
	877.0	2.73	38.00	0	0	96.6	2.000
	779.7	2.71	38.00	0	0	96.6	2.000
	776.8	2.74	38.00	0	0	96.6	2.000
	677.4	2.84	38.00	0	0	96.6	2.000
	677.5	2.87	38.00	0	0	96.6	2.000
	590.7	2.97	38.00	0	0	96.6	2.000
	587.8	3.01	38.00	0	0	96.6	2.000
	581.5	2.99	38.00	0	0	96.6	2.000
	777.7	2.88	38.00	0	0	96.6	2.000
	781.1	2.91	38.00	0	0	96.6	2.000
	574.4	3.78	38.00	0	0	96.6	2.000
	577.3	3.75	38.00	0	0	96.6	2.000
	574.1	3.74	38.00	0	0	96.6	2.000
	576.9	3.69	38.00	0	0	96.6	2.000
	576.6	3.64	38.00	0	0	96.6	2.000
	678.7	3.51	38.00	0	0	96.6	2.000
	681.6	3.48	38.00	0	0	96.6	2.000
	777.1	3.25	38.00	0	0	96.6	2.000
	777.3	3.28	38.00	0	0	96.6	2.000
	780.6	3.31	38.00	0	0	96.6	2.000
	876.2	3.09	38.00	0	0	96.6	2.000
	882.5	3.10	38.00	0	0	96.6	2.000
	972.2	2.91	38.00	0	0	96.6	2.000
	975.3	2.90	38.00	0	0	96.6	2.000
	1081.0	2.77	38.00	0	0	96.6	2.000
	1080.9	2.76	38.00	0	0	96.6	2.000
	1180.2	2.59	38.00	0	0	96.6	2.000
	1170.8	2.59	38.00	0	0	96.6	2.000
	1376.1	2.32	38.00	0	0	96.6	2.000
	1373.0	2.34	38.00	0	0	96.6	2.000
	573.6	2.27	60.00	0	0	96.6	2.000
	570.9	2.36	60.00	0	0	96.6	2.000
	574.1	2.38	60.00	0	0	96.6	2.000
	571.2	2.41	60.00	0	0	96.6	2.000
	670.2	2.26	60.00	0	0	96.6	2.000
	670.3	2.29	60.00	0	0	96.6	2.000
	670.5	2.33	60.00	0	0	96.6	2.000
	773.0	2.23	60.00	0	0	96.6	2.000
	779.1	2.19	60.00	0	0	96.6	2.000
	778.5	2.08	60.00	0	0	96.6	2.000
	872.3	2.11	60.00	0	0	96.6	2.000
	872.6	2.17	60.00	0	0	96.6	2.000
	975.2	2.08	60.00	0	0	96.6	2.000
	981.3	2.04	60.00	0	0	96.6	2.000
	1074.8	2.00	60.00	0	0	96.6	2.000
	1071.7	2.02	60.00	0	0	96.6	2.000
	1171.4	1.97	60.00	0	0	96.6	2.000
	1171.4	1.97	60.00	0	0	96.6	2.000
	1277.5	1.93	60.00	0	0	96.6	2.000
	1274.4	1.94	60.00	0	0	96.6	2.000
	1370.9	1.88	60.00	0	0	96.6	2.000
	1473.9	1.86	60.00	0	0	96.6	2.000
	1570.8	1.90	60.00	0	0	96.6	2.000
	773.6	2.37	60.00	0	0	96.6	2.000
	776.8	2.38	60.00	0	0	96.6	2.000
	879.3	2.27	60.00	0	0	96.6	2.000
	873.2	2.30	60.00	0	0	96.6	2.000
	972.6	2.20	60.00	0	0	96.6	2.000
	975.8	2.21	60.00	0	0	96.6	2.000
	1075.4	2.14	60.00	0	0	96.6	2.000
	1075.4	2.14	60.00	0	0	96.6	2.000
	1178.1	2.06	60.00	0	0	96.6	2.000
	1178.0	2.05	60.00	0	0	96.6	2.000
	1374.3	1.94	60.00	0	0	96.6	2.000
	1474.2	1.93	60.00	0	0	96.6	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1474.0	1.90	60.00	0	0	96.6	2.000
	1574.3	1.99	60.00	0	0	96.6	2.000
	1574.6	2.05	60.00	0	0	96.6	2.000
	1574.9	2.11	60.00	0	0	96.6	2.000
	1571.3	2.01	60.00	0	0	96.6	2.000
	1674.5	2.05	60.00	0	0	96.6	2.000
	1674.6	2.07	60.00	0	0	96.6	2.000
	1674.2	1.97	60.00	0	0	96.6	2.000
	1673.9	1.91	60.00	0	0	96.6	2.000
	1673.6	1.83	60.00	0	0	96.6	2.000
	1779.4	1.76	60.00	0	0	96.6	2.000
	1773.5	1.85	60.00	0	0	96.6	2.000
	1773.7	1.90	60.00	0	0	96.6	2.000
	1777.0	1.94	60.00	0	0	96.6	2.000
	1873.7	1.95	60.00	0	0	96.6	2.000
	1874.1	2.03	60.00	0	0	96.6	2.000
	1774.7	2.14	60.00	0	0	96.6	2.000
	574.9	3.20	60.00	0	0	96.6	2.000
	574.6	3.12	60.00	0	0	96.6	2.000
	574.6	3.14	60.00	0	0	96.6	2.000
	574.3	3.06	60.00	0	0	96.6	2.000
	574.4	3.10	60.00	0	0	96.6	2.000
	676.4	2.92	60.00	0	0	96.6	2.000
	676.4	2.92	60.00	0	0	96.6	2.000
	775.9	2.86	60.00	0	0	96.6	2.000
	775.6	2.81	60.00	0	0	96.6	2.000
	775.5	2.78	60.00	0	0	96.6	2.000
	769.4	2.82	60.00	0	0	96.6	2.000
	877.9	2.65	60.00	0	0	96.6	2.000
	878.0	2.68	60.00	0	0	96.6	2.000
	974.1	2.54	60.00	0	0	96.6	2.000
	971.3	2.60	60.00	0	0	96.6	2.000
	971.5	2.65	60.00	0	0	96.6	2.000
	974.7	2.67	60.00	0	0	96.6	2.000
	1076.6	2.40	60.00	0	0	96.6	2.000
	1076.8	2.46	60.00	0	0	96.6	2.000
	1176.0	2.29	60.00	0	0	96.6	2.000
	1173.2	2.37	60.00	0	0	96.6	2.000
	1176.6	2.43	60.00	0	0	96.6	2.000
	1176.2	2.33	60.00	0	0	96.6	2.000
	1375.5	2.23	60.00	0	0	96.6	2.000
	1375.6	2.23	60.00	0	0	96.6	2.000
	1375.6	2.23	60.00	0	0	96.6	2.000
	1375.1	2.14	60.00	0	0	96.6	2.000
	1375.1	2.14	60.00	0	0	96.6	2.000
	1372.1	2.16	60.00	0	0	96.6	2.000
	575.4	3.55	0.00	10	0	96.6	2.000
	578.5	3.59	0.00	10	0	96.6	2.000
	774.6	3.29	0.00	10	0	96.6	2.000
	774.7	3.32	0.00	10	0	96.6	2.000
	983.4	3.04	0.00	10	0	96.6	2.000
	983.4	3.06	0.00	10	0	96.6	2.000
	1173.8	2.83	0.00	10	0	96.6	2.000
	1170.8	2.87	0.00	10	0	96.6	2.000
	1367.2	2.59	0.00	10	0	96.6	2.000
	1373.5	2.64	0.00	10	0	96.6	2.000
	1573.2	2.43	0.00	10	0	96.6	2.000
	1573.3	2.45	0.00	10	0	96.6	2.000
	1782.4	2.33	0.00	10	0	96.6	2.000
	1785.3	2.29	0.00	10	0	96.6	2.000
	571.3	3.17	21.00	10	0	96.6	2.000
	577.5	3.20	21.00	10	0	96.6	2.000
	672.6	3.10	21.00	10	0	96.6	2.000
	776.8	2.92	21.00	10	0	96.6	2.000
	776.9	2.98	21.00	10	0	96.6	2.000
	875.3	2.90	21.00	10	0	96.6	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	875.3	2.92	21.00	10	0	96.6	2.000
	976.4	2.73	21.00	10	0	96.6	2.000
	973.5	2.78	21.00	10	0	96.6	2.000
	979.7	2.80	21.00	10	0	96.6	2.000
	1075.0	2.72	21.00	10	0	96.6	2.000
	1074.9	2.68	21.00	10	0	96.6	2.000
	1170.0	2.53	21.00	10	0	96.6	2.000
	1176.3	2.61	21.00	10	0	96.6	2.000
	1176.3	2.61	21.00	10	0	96.6	2.000
	1382.2	2.38	21.00	10	0	96.6	2.000
	1373.0	2.42	21.00	10	0	96.6	2.000
	1376.2	2.47	21.00	10	0	96.6	2.000
	1569.7	2.25	21.00	10	0	96.6	2.000
	1569.8	2.27	21.00	10	0	96.6	2.000
	1576.0	2.31	21.00	10	0	96.6	2.000
	1579.3	2.38	21.00	10	0	96.6	2.000
	578.8	2.54	21.00	10	0	96.6	2.000
	578.8	2.54	21.00	10	0	96.6	2.000
	576.0	2.63	21.00	10	0	96.6	2.000
	576.1	2.67	21.00	10	0	96.6	2.000
	677.5	2.62	21.00	10	0	96.6	2.000
	677.5	2.60	21.00	10	0	96.6	2.000
	680.2	2.48	21.00	10	0	96.6	2.000
	775.6	2.46	21.00	10	0	96.6	2.000
	778.9	2.54	21.00	10	0	96.6	2.000
	778.9	2.54	21.00	10	0	96.6	2.000
	776.1	2.65	21.00	10	0	96.6	2.000
	779.2	2.65	21.00	10	0	96.6	2.000
	779.3	2.69	21.00	10	0	96.6	2.000
	877.5	2.59	21.00	10	0	96.6	2.000
	877.5	2.59	21.00	10	0	96.6	2.000
	877.3	2.49	21.00	10	0	96.6	2.000
	877.2	2.47	21.00	10	0	96.6	2.000
	877.1	2.43	21.00	10	0	96.6	2.000
	975.5	2.37	21.00	10	0	96.6	2.000
	975.6	2.40	21.00	10	0	96.6	2.000
	975.6	2.40	21.00	10	0	96.6	2.000
	972.7	2.48	21.00	10	0	96.6	2.000
	972.8	2.49	21.00	10	0	96.6	2.000
	972.8	2.50	21.00	10	0	96.6	2.000
	1071.2	2.45	21.00	10	0	96.6	2.000
	1077.3	2.42	21.00	10	0	96.6	2.000
	1074.0	2.34	21.00	10	0	96.6	2.000
	1175.7	2.36	21.00	10	0	96.6	2.000
	1178.7	2.34	21.00	10	0	96.6	2.000
	1178.7	2.32	21.00	10	0	96.6	2.000
	1175.5	2.28	21.00	10	0	96.6	2.000
	1277.1	2.27	21.00	10	0	96.6	2.000
	1277.1	2.25	21.00	10	0	96.6	2.000
	1277.1	2.25	21.00	10	0	96.6	2.000
	1372.6	2.24	21.00	10	0	96.6	2.000
	1372.5	2.23	21.00	10	0	96.6	2.000
	1372.5	2.22	21.00	10	0	96.6	2.000
	1471.0	2.20	21.00	10	0	96.6	2.000
	1474.1	2.19	21.00	10	0	96.6	2.000
	1575.6	2.13	21.00	10	0	96.6	2.000
	1572.5	2.11	21.00	10	0	96.6	2.000
	1575.5	2.08	21.00	10	0	96.6	2.000
	1572.6	2.18	21.00	10	0	96.6	2.000
	1575.7	2.16	21.00	10	0	96.6	2.000
	1670.8	2.03	21.00	10	0	96.6	2.000
	1670.9	2.08	21.00	10	0	96.6	2.000
	1671.0	2.09	21.00	10	0	96.6	2.000
	1671.1	2.14	21.00	10	0	96.6	2.000
	1671.1	2.14	21.00	10	0	96.6	2.000
	1668.1	2.19	21.00	10	0	96.6	2.000
	1668.1	2.19	21.00	10	0	96.6	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1671.2	2.17	21.00	10	0	96.6	2.000
	1668.2	2.23	21.00	10	0	96.6	2.000
	1778.6	2.03	21.00	10	0	96.6	2.000
	1778.7	2.09	21.00	10	0	96.6	2.000
	1775.7	2.10	21.00	10	0	96.6	2.000
	1769.6	2.15	21.00	10	0	96.6	2.000
	1766.6	2.16	21.00	10	0	96.6	2.000
	1772.9	2.21	21.00	10	0	96.6	2.000
	1772.9	2.21	21.00	10	0	96.6	2.000
	1773.1	2.34	21.00	10	0	96.6	2.000
	1874.4	2.20	21.00	10	0	96.6	2.000
	1877.3	2.13	21.00	10	0	96.6	2.000
	1874.2	2.10	21.00	10	0	96.6	2.000
	578.4	2.20	47.00	10	0	96.6	2.000
	677.0	2.18	47.00	10	0	96.6	2.000
	775.6	2.15	47.00	10	0	96.6	2.000
	877.3	2.12	47.00	10	0	96.6	2.000
	973.0	2.15	47.00	10	0	96.6	2.000
	1071.6	2.11	47.00	10	0	96.6	2.000
	1071.6	2.13	47.00	10	0	96.6	2.000
	1173.4	2.09	47.00	10	0	96.6	2.000
	1272.1	2.09	47.00	10	0	96.6	2.000
	1269.0	2.08	47.00	10	0	96.6	2.000
	1367.5	2.01	47.00	10	0	96.6	2.000
	1567.6	1.84	47.00	10	0	96.6	2.000
	1672.6	1.87	47.00	10	0	96.6	2.000
	1672.5	1.85	47.00	10	0	96.6	2.000
	1771.1	1.80	47.00	10	0	96.6	2.000
	1866.3	1.59	47.00	10	0	96.6	2.000
	1866.3	1.63	47.00	10	0	96.6	2.000
	1863.5	1.75	47.00	10	0	96.6	2.000
	1771.6	1.99	47.00	10	0	96.6	2.000
	1768.4	1.96	47.00	10	0	96.6	2.000
	1768.2	1.88	47.00	10	0	96.6	2.000
	1771.2	1.84	47.00	10	0	96.6	2.000
	1670.5	2.27	47.00	10	0	96.6	2.000
	1667.1	2.15	47.00	10	0	96.6	2.000
	1667.0	2.12	47.00	10	0	96.6	2.000
	1666.9	2.05	47.00	10	0	96.6	2.000
	1663.7	2.00	47.00	10	0	96.6	2.000
	1564.6	1.86	47.00	10	0	96.6	2.000
	1570.9	1.91	47.00	10	0	96.6	2.000
	1571.0	1.94	47.00	10	0	96.6	2.000
	1568.1	2.01	47.00	10	0	96.6	2.000
	1571.3	2.06	47.00	10	0	96.6	2.000
	1568.3	2.12	47.00	10	0	96.6	2.000
	1472.7	2.13	47.00	10	0	96.6	2.000
	1469.5	2.07	47.00	10	0	96.6	2.000
	1374.3	2.24	47.00	10	0	96.6	2.000
	1374.1	2.19	47.00	10	0	96.6	2.000
	1371.0	2.16	47.00	10	0	96.6	2.000
	1370.9	2.13	47.00	10	0	96.6	2.000
	1370.9	2.12	47.00	10	0	96.6	2.000
	1373.8	2.05	47.00	10	0	96.6	2.000
	1173.6	2.21	47.00	10	0	96.6	2.000
	1173.5	2.15	47.00	10	0	96.6	2.000
	1176.9	2.29	47.00	10	0	96.6	2.000
	1173.7	2.23	47.00	10	0	96.6	2.000
	1177.0	2.34	47.00	10	0	96.6	2.000
	1075.4	2.41	47.00	10	0	96.6	2.000
	1072.2	2.35	47.00	10	0	96.6	2.000
	1072.1	2.33	47.00	10	0	96.6	2.000
	1075.1	2.29	47.00	10	0	96.6	2.000
	1072.0	2.25	47.00	10	0	96.6	2.000
	1071.9	2.24	47.00	10	0	96.6	2.000
	973.8	2.49	47.00	10	0	96.6	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	973.8	2.47	47.00	10	0	96.6	2.000
	973.7	2.45	47.00	10	0	96.6	2.000
	973.4	2.32	47.00	10	0	96.6	2.000
	973.4	2.32	47.00	10	0	96.6	2.000
	973.3	2.28	47.00	10	0	96.6	2.000
	973.3	2.26	47.00	10	0	96.6	2.000
	973.2	2.23	47.00	10	0	96.6	2.000
	976.2	2.22	47.00	10	0	96.6	2.000
	874.9	2.39	47.00	10	0	96.6	2.000
	874.8	2.35	47.00	10	0	96.6	2.000
	874.8	2.34	47.00	10	0	96.6	2.000
	869.1	2.54	47.00	10	0	96.6	2.000
	874.4	2.22	47.00	10	0	96.6	2.000
	874.3	2.18	47.00	10	0	96.6	2.000
	779.0	2.26	47.00	10	0	96.6	2.000
	778.9	2.25	47.00	10	0	96.6	2.000
	778.8	2.22	47.00	10	0	96.6	2.000
	778.8	2.22	47.00	10	0	96.6	2.000
	778.7	2.17	47.00	10	0	96.6	2.000
	773.0	2.34	47.00	10	0	96.6	2.000
	767.0	2.40	47.00	10	0	96.6	2.000
	767.0	2.41	47.00	10	0	96.6	2.000
	767.1	2.45	47.00	10	0	96.6	2.000
	782.9	2.59	47.00	10	0	96.6	2.000
	783.0	2.62	47.00	10	0	96.6	2.000
	672.1	2.67	47.00	10	0	96.6	2.000
	672.1	2.66	47.00	10	0	96.6	2.000
	579.9	2.75	47.00	10	0	96.6	2.000
	579.8	2.74	47.00	10	0	96.6	2.000
	573.4	2.64	47.00	10	0	96.6	2.000
	570.2	2.60	47.00	10	0	96.6	2.000
	570.0	2.53	47.00	10	0	96.6	2.000
	572.9	2.46	47.00	10	0	96.6	2.000
	572.7	2.38	47.00	10	0	96.6	2.000
	575.7	2.35	47.00	10	0	96.6	2.000
	575.6	2.31	47.00	10	0	96.6	2.000
	575.6	2.30	47.00	10	0	96.6	2.000
	677.3	2.31	47.00	10	0	96.6	2.000
	674.2	2.31	47.00	10	0	96.6	2.000
	677.2	2.28	47.00	10	0	96.6	2.000
	680.2	2.25	47.00	10	0	96.6	2.000
	674.0	2.21	47.00	10	0	96.6	2.000
Duriez et al. (2000)							
	676.0	4.40	0	0	3.0	100.0	2.000
	674.1	4.35	0	0	3.0	100.0	2.000
	695.3	4.24	0	0	3.0	100.0	2.000
	693.3	4.21	0	0	3.0	100.0	2.000
	693.4	4.15	0	0	3.0	100.0	2.000
	693.5	4.11	0	0	3.0	100.0	2.000
	678.7	4.13	0	0	3.0	100.0	2.000
	681.0	4.07	0	0	3.0	100.0	2.000
	740.0	4.03	0	0	3.0	100.0	2.000
	735.7	4.08	0	0	3.0	100.0	2.000
	717.2	3.88	0	0	3.0	100.0	2.000
	715.0	3.90	0	0	3.0	100.0	2.000
	715.0	3.91	0	0	3.0	100.0	2.000
	780.3	3.90	0	0	3.0	100.0	2.000
	780.4	3.86	0	0	3.0	100.0	2.000
	816.5	3.75	0	0	3.0	100.0	2.000
	816.6	3.69	0	0	3.0	100.0	2.000
	774.4	3.73	0	0	3.0	100.0	2.000
	787.1	3.68	0	0	3.0	100.0	2.000
	785.1	3.65	0	0	3.0	100.0	2.000
	778.8	3.62	0	0	3.0	100.0	2.000
	863.2	3.56	0	0	3.0	100.0	2.000
	880.3	3.44	0	0	3.0	100.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	918.5	3.33	0	0	3.0	100.0	2.000
	895.2	3.37	0	0	3.0	100.0	2.000
	918.6	3.28	0	0	3.0	100.0	2.000
	986.4	3.11	0	0	3.0	100.0	2.000
	988.6	3.06	0	0	3.0	100.0	2.000
	988.5	3.08	0	0	3.0	100.0	2.000
	1015.9	3.07	0	0	3.0	100.0	2.000
	1051.9	3.02	0	0	3.0	100.0	2.000
	1041.5	2.94	0	0	3.0	100.0	2.000
	1041.5	2.92	0	0	3.0	100.0	2.000
	1073.2	2.90	0	0	3.0	100.0	2.000
	1056.4	2.88	0	0	3.0	100.0	2.000
	1079.6	2.87	0	0	3.0	100.0	2.000
	1098.6	2.84	0	0	3.0	100.0	2.000
	1081.8	2.82	0	0	3.0	100.0	2.000
	1130.3	2.78	0	0	3.0	100.0	2.000
	1149.2	2.80	0	0	3.0	100.0	2.000
	1147.2	2.74	0	0	3.0	100.0	2.000
	1155.8	2.70	0	0	3.0	100.0	2.000
	1143.2	2.68	0	0	3.0	100.0	2.000
	1158.0	2.65	0	0	3.0	100.0	2.000
	1191.7	2.62	0	0	3.0	100.0	2.000
	1196.0	2.58	0	0	3.0	100.0	2.000
	1212.9	2.58	0	0	3.0	100.0	2.000
	1231.9	2.55	0	0	3.0	100.0	2.000
	1236.2	2.50	0	0	3.0	100.0	2.000
	1242.6	2.48	0	0	3.0	100.0	2.000
	1287.0	2.40	0	0	3.0	100.0	2.000
	1295.5	2.35	0	0	3.0	100.0	2.000
	1297.6	2.37	0	0	3.0	100.0	2.000
	1350.4	2.32	0	0	3.0	100.0	2.000
	1350.3	2.34	0	0	3.0	100.0	2.000
	1380.0	2.27	0	0	3.0	100.0	2.000
	1398.9	2.27	0	0	3.0	100.0	2.000
	1411.6	2.26	0	0	3.0	100.0	2.000
	1413.8	2.20	0	0	3.0	100.0	2.000
	1464.5	2.16	0	0	3.0	100.0	2.000
	1510.9	2.12	0	0	3.0	100.0	2.000
	1508.7	2.15	0	0	3.0	100.0	2.000
	1527.7	2.17	0	0	3.0	100.0	2.000
	1559.5	2.06	0	0	3.0	100.0	2.000
	1559.4	2.08	0	0	3.0	100.0	2.000
	1612.2	2.05	0	0	3.0	100.0	2.000
	1603.7	2.10	0	0	3.0	100.0	2.000
	1637.3	2.12	0	0	3.0	100.0	2.000
	1700.6	2.08	0	0	3.0	100.0	2.000
	1791.2	2.07	0	0	3.0	100.0	2.000
	1839.7	2.06	0	0	3.0	100.0	2.000
	1839.6	2.10	0	0	3.0	100.0	2.000
	1890.2	2.08	0	0	3.0	100.0	2.000
	1888.2	2.06	0	0	3.0	100.0	2.000
	1915.3	2.16	0	0	3.0	100.0	2.000
	1991.2	2.15	0	0	3.0	100.0	2.000
	1991.2	2.13	0	0	3.0	100.0	2.000
	714.9	3.97	0	0	3.0	100.0	1.983
	721.2	3.95	0	0	3.0	100.0	1.983
	715.0	3.91	0	0	3.0	100.0	1.983
	708.8	3.85	0	0	3.0	100.0	1.983
	787.3	3.60	0	0	3.0	100.0	1.983
	791.6	3.56	0	0	3.0	100.0	1.983
	791.8	3.48	0	0	3.0	100.0	1.983
	857.0	3.51	0	0	3.0	100.0	1.983
	856.9	3.54	0	0	3.0	100.0	1.983
	861.5	3.40	0	0	3.0	100.0	1.983
	871.9	3.42	0	0	3.0	100.0	1.983
	878.3	3.39	0	0	3.0	100.0	1.983
	889.0	3.33	0	0	3.0	100.0	1.983

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	889.1	3.26	0	0	3.0	100.0	1.983
	937.6	3.27	0	0	3.0	100.0	1.983
	939.8	3.22	0	0	3.0	100.0	1.983
	954.7	3.14	0	0	3.0	100.0	1.983
	948.4	3.11	0	0	3.0	100.0	1.983
	1030.8	3.01	0	0	3.0	100.0	1.983
	1022.4	2.99	0	0	3.0	100.0	1.983
	1028.8	2.96	0	0	3.0	100.0	1.983
	1041.5	2.95	0	0	3.0	100.0	1.983
	1041.5	2.93	0	0	3.0	100.0	1.983
	1039.4	2.91	0	0	3.0	100.0	1.983
	1096.6	2.80	0	0	3.0	100.0	1.983
	1164.2	2.68	0	0	3.0	100.0	1.983
	1174.9	2.60	0	0	3.0	100.0	1.983
	1174.9	2.63	0	0	3.0	100.0	1.983
	1259.3	2.56	0	0	3.0	100.0	1.983
	1259.4	2.50	0	0	3.0	100.0	1.983
	1229.8	2.55	0	0	3.0	100.0	1.983
	1221.3	2.60	0	0	3.0	100.0	1.983
	1221.3	2.61	0	0	3.0	100.0	1.983
	1305.9	2.45	0	0	3.0	100.0	1.983
	1367.1	2.40	0	0	3.0	100.0	1.983
	1400.9	2.36	0	0	3.0	100.0	1.983
	1367.2	2.33	0	0	3.0	100.0	1.983
	1460.2	2.20	0	0	3.0	100.0	1.983
	1458.0	2.22	0	0	3.0	100.0	1.983
	1536.0	2.20	0	0	3.0	100.0	1.983
	1603.8	2.02	0	0	3.0	100.0	1.983
	1677.6	2.02	0	0	3.0	100.0	1.983
	1675.4	2.04	0	0	3.0	100.0	1.983
	1601.6	2.07	0	0	3.0	100.0	1.983
	1677.4	2.10	0	0	3.0	100.0	1.983
	1675.2	2.12	0	0	3.0	100.0	1.983
	1677.3	2.15	0	0	3.0	100.0	1.983
	1786.8	2.15	0	0	3.0	100.0	1.983
	1768.0	2.10	0	0	3.0	100.0	1.983
	1789.1	2.09	0	0	3.0	100.0	1.983
	1765.9	2.07	0	0	3.0	100.0	1.983
	1787.1	2.02	0	0	3.0	100.0	1.983
	1789.2	2.00	0	0	3.0	100.0	1.983
	1894.3	2.14	0	0	3.0	100.0	1.983
	1917.5	2.11	0	0	3.0	100.0	1.983
	1919.7	2.07	0	0	3.0	100.0	1.983
	1892.4	2.05	0	0	3.0	100.0	1.983
	2024.8	2.17	0	0	3.0	100.0	1.983
	2048.1	2.12	0	0	3.0	100.0	1.983
	2048.2	2.08	0	0	3.0	100.0	1.983
	2151.2	2.19	0	0	3.0	100.0	1.983
	2159.6	2.21	0	0	3.0	100.0	1.983
	2161.6	2.25	0	0	3.0	100.0	1.983
	2151.2	2.22	0	0	3.0	100.0	1.983
	2256.4	2.26	0	0	3.0	100.0	1.983
	2258.4	2.30	0	0	3.0	100.0	1.983
	2241.5	2.32	0	0	3.0	100.0	1.983
	2258.4	2.33	0	0	3.0	100.0	1.983
	681.7	4.39	0	0	6.0	100.0	2.000
	683.8	4.31	0	0	6.0	100.0	2.000
	677.2	4.28	0	0	6.0	100.0	2.000
	688.2	4.23	0	0	6.0	100.0	2.000
	703.6	4.21	0	0	6.0	100.0	2.000
	708.0	4.15	0	0	6.0	100.0	2.000
	738.9	4.14	0	0	6.0	100.0	2.000
	708.0	4.12	0	0	6.0	100.0	2.000
	701.3	4.11	0	0	6.0	100.0	2.000
	719.0	4.08	0	0	6.0	100.0	2.000
	719.0	4.06	0	0	6.0	100.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	738.8	4.02	0	0	6.0	100.0	2.000
	760.8	3.84	0	0	6.0	100.0	2.000
	771.8	3.79	0	0	6.0	100.0	2.000
	771.8	3.77	0	0	6.0	100.0	2.000
	758.5	3.73	0	0	6.0	100.0	2.000
	807.0	3.63	0	0	6.0	100.0	2.000
	829.1	3.59	0	0	6.0	100.0	2.000
	829.1	3.56	0	0	6.0	100.0	2.000
	809.2	3.58	0	0	6.0	100.0	2.000
	879.8	3.49	0	0	6.0	100.0	2.000
	853.3	3.48	0	0	6.0	100.0	2.000
	855.5	3.46	0	0	6.0	100.0	2.000
	866.5	3.43	0	0	6.0	100.0	2.000
	910.6	3.26	0	0	6.0	100.0	2.000
	910.6	3.23	0	0	6.0	100.0	2.000
	959.1	3.21	0	0	6.0	100.0	2.000
	992.2	3.13	0	0	6.0	100.0	2.000
	996.6	3.12	0	0	6.0	100.0	2.000
	992.2	3.04	0	0	6.0	100.0	2.000
	992.1	3.04	0	0	6.0	100.0	2.000
	1031.9	3.01	0	0	6.0	100.0	2.000
	1036.3	2.95	0	0	6.0	100.0	2.000
	1082.6	2.84	0	0	6.0	100.0	2.000
	1071.5	2.84	0	0	6.0	100.0	2.000
	1069.3	2.84	0	0	6.0	100.0	2.000
	1111.3	2.82	0	0	6.0	100.0	2.000
	1111.2	2.74	0	0	6.0	100.0	2.000
	1157.5	2.65	0	0	6.0	100.0	2.000
	1188.5	2.67	0	0	6.0	100.0	2.000
	1184.0	2.63	0	0	6.0	100.0	2.000
	1245.8	2.55	0	0	6.0	100.0	2.000
	1214.9	2.58	0	0	6.0	100.0	2.000
	1298.8	2.41	0	0	6.0	100.0	2.000
	1294.3	2.38	0	0	6.0	100.0	2.000
	1294.3	2.37	0	0	6.0	100.0	2.000
	1360.5	2.30	0	0	6.0	100.0	2.000
	1395.9	2.29	0	0	6.0	100.0	2.000
	1437.8	2.29	0	0	6.0	100.0	2.000
	1435.6	2.25	0	0	6.0	100.0	2.000
	1479.8	2.24	0	0	6.0	100.0	2.000
	1517.4	2.27	0	0	6.0	100.0	2.000
	1517.4	2.27	0	0	6.0	100.0	2.000
	1515.1	2.16	0	0	6.0	100.0	2.000
	1563.7	2.16	0	0	6.0	100.0	2.000
	1563.7	2.14	0	0	6.0	100.0	2.000
	1665.3	2.16	0	0	6.0	100.0	2.000
	1689.6	2.20	0	0	6.0	100.0	2.000
	1751.4	2.12	0	0	6.0	100.0	2.000
	1764.7	2.14	0	0	6.0	100.0	2.000
	1837.6	2.12	0	0	6.0	100.0	2.000
	1846.4	2.13	0	0	6.0	100.0	2.000
	1753.6	2.07	0	0	6.0	100.0	2.000
	705.6	3.88	0	0	6.0	100.0	1.991
	705.6	3.87	0	0	6.0	100.0	1.991
	714.4	3.85	0	0	6.0	100.0	1.991
	679.0	3.82	0	0	6.0	100.0	1.991
	727.6	3.77	0	0	6.0	100.0	1.991
	767.3	3.64	0	0	6.0	100.0	1.991
	798.2	3.67	0	0	6.0	100.0	1.991
	758.4	3.67	0	0	6.0	100.0	1.991
	756.3	3.70	0	0	6.0	100.0	1.991
	756.3	3.76	0	0	6.0	100.0	1.991
	787.1	3.58	0	0	6.0	100.0	1.991
	773.8	3.58	0	0	6.0	100.0	1.991
	753.9	3.50	0	0	6.0	100.0	1.991
	773.8	3.51	0	0	6.0	100.0	1.991
	762.8	3.53	0	0	6.0	100.0	1.991

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	683.3	3.62	0	0	6.0	100.0	1.991
	840.0	3.47	0	0	6.0	100.0	1.991
	839.8	3.21	0	0	6.0	100.0	1.991
	839.8	3.18	0	0	6.0	100.0	1.991
	928.1	3.10	0	0	6.0	100.0	1.991
	948.0	3.11	0	0	6.0	100.0	1.991
	934.8	3.12	0	0	6.0	100.0	1.991
	941.4	3.14	0	0	6.0	100.0	1.991
	959.1	3.13	0	0	6.0	100.0	1.991
	879.5	3.11	0	0	6.0	100.0	1.991
	954.6	3.06	0	0	6.0	100.0	1.991
	936.9	3.06	0	0	6.0	100.0	1.991
	930.3	3.04	0	0	6.0	100.0	1.991
	956.8	3.02	0	0	6.0	100.0	1.991
	939.1	3.00	0	0	6.0	100.0	1.991
	941.3	3.00	0	0	6.0	100.0	1.991
	923.6	2.89	0	0	6.0	100.0	1.991
	1956.8	2.03	0	0	6.0	100.0	1.991
	1956.8	1.99	0	0	6.0	100.0	1.991
	1943.6	2.10	0	0	6.0	100.0	1.991
	1852.9	1.97	0	0	6.0	100.0	1.991
	1852.9	1.96	0	0	6.0	100.0	1.991
	1852.9	1.92	0	0	6.0	100.0	1.991
	1815.3	1.85	0	0	6.0	100.0	1.991
	1742.4	1.94	0	0	6.0	100.0	1.991
	1738.1	1.98	0	0	6.0	100.0	1.991
	1815.4	2.02	0	0	6.0	100.0	1.991
	1813.3	2.11	0	0	6.0	100.0	1.991
	1669.6	2.07	0	0	6.0	100.0	1.991
	1671.8	2.06	0	0	6.0	100.0	1.991
	1561.2	1.84	0	0	6.0	100.0	1.991
	1556.9	1.92	0	0	6.0	100.0	1.991
	1554.7	1.97	0	0	6.0	100.0	1.991
	1598.8	1.94	0	0	6.0	100.0	1.991
	1486.3	2.06	0	0	6.0	100.0	1.991
	1462.0	2.05	0	0	6.0	100.0	1.991
	1470.7	1.98	0	0	6.0	100.0	1.991
	1382.5	2.08	0	0	6.0	100.0	1.991
	1331.7	2.17	0	0	6.0	100.0	1.991
	1331.7	2.19	0	0	6.0	100.0	1.991
	1294.2	2.23	0	0	6.0	100.0	1.991
	1126.4	2.39	0	0	6.0	100.0	1.991
	1124.3	2.48	0	0	6.0	100.0	1.991
	1126.5	2.49	0	0	6.0	100.0	1.991
	1095.6	2.53	0	0	6.0	100.0	1.991
	1036.0	2.66	0	0	6.0	100.0	1.991
	983.1	2.73	0	0	6.0	100.0	1.991
	1091.3	2.66	0	0	6.0	100.0	1.991
	1031.7	2.82	0	0	6.0	100.0	1.991
	1007.5	2.83	0	0	6.0	100.0	1.991
	1098.0	2.73	0	0	6.0	100.0	1.991
	1296.6	2.44	0	0	6.0	100.0	1.991
	1393.7	2.32	0	0	6.0	100.0	1.991
	1387.0	2.22	0	0	6.0	100.0	1.991
	1607.9	2.16	0	0	6.0	100.0	1.991
	1669.6	1.99	0	0	6.0	100.0	1.991
	709.9	3.69	0	0	6.0	100.0	1.986
	698.8	3.67	0	0	6.0	100.0	1.986
	698.8	3.65	0	0	6.0	100.0	1.986
	703.2	3.61	0	0	6.0	100.0	1.986
	736.3	3.56	0	0	6.0	100.0	1.986
	692.1	3.56	0	0	6.0	100.0	1.986
	694.3	3.53	0	0	6.0	100.0	1.986
	687.6	3.49	0	0	6.0	100.0	1.986
	764.9	3.45	0	0	6.0	100.0	1.986
	778.1	3.39	0	0	6.0	100.0	1.986

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	769.3	3.38	0	0	6.0	100.0	1.986
	857.6	3.39	0	0	6.0	100.0	1.986
	837.8	3.45	0	0	6.0	100.0	1.986
	729.7	3.66	0	0	6.0	100.0	1.986
	782.5	3.33	0	0	6.0	100.0	1.986
	806.8	3.33	0	0	6.0	100.0	1.986
	782.5	3.29	0	0	6.0	100.0	1.986
	806.8	3.30	0	0	6.0	100.0	1.986
	833.3	3.31	0	0	6.0	100.0	1.986
	826.6	3.27	0	0	6.0	100.0	1.986
	857.6	3.27	0	0	6.0	100.0	1.986
	817.8	3.24	0	0	6.0	100.0	1.986
	868.6	3.19	0	0	6.0	100.0	1.986
	870.7	3.16	0	0	6.0	100.0	1.986
	784.6	3.13	0	0	6.0	100.0	1.986
	839.8	3.15	0	0	6.0	100.0	1.986
	819.9	3.08	0	0	6.0	100.0	1.986
	877.2	2.96	0	0	6.0	100.0	1.986
	921.4	2.96	0	0	6.0	100.0	1.986
	917.0	3.01	0	0	6.0	100.0	1.986
	965.6	2.97	0	0	6.0	100.0	1.986
	996.5	2.97	0	0	6.0	100.0	1.986
	996.5	2.95	0	0	6.0	100.0	1.986
	994.3	2.91	0	0	6.0	100.0	1.986
	947.9	2.92	0	0	6.0	100.0	1.986
	972.2	2.89	0	0	6.0	100.0	1.986
	943.4	2.89	0	0	6.0	100.0	1.986
	941.2	2.86	0	0	6.0	100.0	1.986
	1095.8	2.79	0	0	6.0	100.0	1.986
	998.6	2.82	0	0	6.0	100.0	1.986
	1011.8	2.74	0	0	6.0	100.0	1.986
	1047.2	2.75	0	0	6.0	100.0	1.986
	1091.3	2.70	0	0	6.0	100.0	1.986
	1011.9	2.89	0	0	6.0	100.0	1.986
	1206.1	2.53	0	0	6.0	100.0	1.986
	1203.8	2.50	0	0	6.0	100.0	1.986
	1208.2	2.45	0	0	6.0	100.0	1.986
	1234.7	2.49	0	0	6.0	100.0	1.986
	1252.4	2.52	0	0	6.0	100.0	1.986
	1245.8	2.45	0	0	6.0	100.0	1.986
	1245.7	2.39	0	0	6.0	100.0	1.986
	1208.1	2.34	0	0	6.0	100.0	1.986
	1234.6	2.31	0	0	6.0	100.0	1.986
	1234.6	2.31	0	0	6.0	100.0	1.986
	1269.9	2.20	0	0	6.0	100.0	1.986
	1331.8	2.25	0	0	6.0	100.0	1.986
	1329.6	2.28	0	0	6.0	100.0	1.986
	1376.0	2.24	0	0	6.0	100.0	1.986
	1406.9	2.32	0	0	6.0	100.0	1.986
	1477.6	2.25	0	0	6.0	100.0	1.986
	1477.6	2.24	0	0	6.0	100.0	1.986
	1446.6	2.17	0	0	6.0	100.0	1.986
	1446.6	2.13	0	0	6.0	100.0	1.986
	1470.9	2.16	0	0	6.0	100.0	1.986
	1470.9	2.13	0	0	6.0	100.0	1.986
	1548.1	2.06	0	0	6.0	100.0	1.986
	1548.1	2.05	0	0	6.0	100.0	1.986
	1550.4	2.08	0	0	6.0	100.0	1.986
	1621.1	2.17	0	0	6.0	100.0	1.986
	1605.6	2.12	0	0	6.0	100.0	1.986
	1621.1	2.10	0	0	6.0	100.0	1.986
	1605.6	2.05	0	0	6.0	100.0	1.986
	1603.3	2.05	0	0	6.0	100.0	1.986
	1689.6	2.14	0	0	6.0	100.0	1.986
	1689.6	2.12	0	0	6.0	100.0	1.986
	1731.5	2.04	0	0	6.0	100.0	1.986
	1775.7	2.16	0	0	6.0	100.0	1.986

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1775.8	2.23	0	0	6.0	100.0	1.986
	1691.6	1.92	0	0	6.0	100.0	1.986
	1775.6	1.99	0	0	6.0	100.0	1.986
	1855.2	2.07	0	0	6.0	100.0	1.986
	1853.0	2.09	0	0	6.0	100.0	1.986
	1842.0	2.09	0	0	6.0	100.0	1.986
	1948.1	2.18	0	0	6.0	100.0	1.986
	1937.1	2.31	0	0	6.0	100.0	1.986
	2021.0	2.24	0	0	6.0	100.0	1.986
	2018.8	2.20	0	0	6.0	100.0	1.986
	2018.8	2.17	0	0	6.0	100.0	1.986
	2049.6	2.07	0	0	6.0	100.0	1.986
	2043.1	2.20	0	0	6.0	100.0	1.986
	2038.6	2.19	0	0	6.0	100.0	1.986
	2040.8	2.14	0	0	6.0	100.0	1.986
	2040.8	2.15	0	0	6.0	100.0	1.986
	1696.1	2.03	0	0	6.0	100.0	1.986
	2233.1	2.26	0	0	6.0	100.0	1.979
	2233.1	2.23	0	0	6.0	100.0	1.979
	2233.2	2.33	0	0	6.0	100.0	1.979
	2118.2	2.21	0	0	6.0	100.0	1.979
	2120.4	2.18	0	0	6.0	100.0	1.979
	2133.6	2.13	0	0	6.0	100.0	1.979
	1908.2	2.04	0	0	6.0	100.0	1.979
	1908.2	2.07	0	0	6.0	100.0	1.979
	1881.7	1.99	0	0	6.0	100.0	1.979
	1883.9	2.02	0	0	6.0	100.0	1.979
	1780.1	2.01	0	0	6.0	100.0	1.979
	1795.5	2.04	0	0	6.0	100.0	1.979
	1682.8	1.98	0	0	6.0	100.0	1.979
	1682.9	2.01	0	0	6.0	100.0	1.979
	1616.5	1.97	0	0	6.0	100.0	1.979
	1614.4	2.02	0	0	6.0	100.0	1.979
	1164.1	2.48	0	0	6.0	100.0	1.979
	1124.3	2.55	0	0	6.0	100.0	1.979
	1124.4	2.60	0	0	6.0	100.0	1.979
	1208.2	2.37	0	0	6.0	100.0	1.979
	1334.0	2.32	0	0	6.0	100.0	1.979
	1415.7	2.22	0	0	6.0	100.0	1.979
	1532.7	2.11	0	0	6.0	100.0	1.979
	1499.6	2.09	0	0	6.0	100.0	1.979
	1530.5	2.09	0	0	6.0	100.0	1.979
	1585.7	2.05	0	0	6.0	100.0	1.979
	1777.9	2.06	0	0	6.0	100.0	1.979
	1161.9	2.51	0	0	6.0	100.0	1.979
	1069.2	2.68	0	0	6.0	100.0	1.979
	991.9	2.68	0	0	6.0	100.0	1.979
	1069.1	2.60	0	0	6.0	100.0	1.979
	1082.4	2.60	0	0	6.0	100.0	1.979
	1025.1	2.79	0	0	6.0	100.0	1.979
	1027.3	2.74	0	0	6.0	100.0	1.979
	943.4	2.83	0	0	6.0	100.0	1.979
	943.4	2.86	0	0	6.0	100.0	1.979
	943.4	2.89	0	0	6.0	100.0	1.979
	877.2	2.97	0	0	6.0	100.0	1.979
	872.9	3.07	0	0	6.0	100.0	1.979
	861.8	3.06	0	0	6.0	100.0	1.979
	875.1	3.02	0	0	6.0	100.0	1.979
	877.3	3.05	0	0	6.0	100.0	1.979
	797.8	3.15	0	0	6.0	100.0	1.979
	837.6	3.21	0	0	6.0	100.0	1.979
	802.3	3.20	0	0	6.0	100.0	1.979
	727.3	3.38	0	0	6.0	100.0	1.979
	727.3	3.41	0	0	6.0	100.0	1.979
	747.2	3.45	0	0	6.0	100.0	1.979
	716.3	3.48	0	0	6.0	100.0	1.979

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	716.3	3.50	0	0	6.0	100.0	1.979
	1259.0	2.43	0	0	6.0	100.0	1.979
	672.7	4.40	0	0	10.0	100.0	2.000
	677.2	4.36	0	0	10.0	100.0	2.000
	699.2	4.33	0	0	10.0	100.0	2.000
	708.2	4.24	0	0	10.0	100.0	2.000
	673.1	4.23	0	0	10.0	100.0	2.000
	679.8	4.14	0	0	10.0	100.0	2.000
	717.2	4.12	0	0	10.0	100.0	2.000
	702.0	4.06	0	0	10.0	100.0	2.000
	739.4	4.03	0	0	10.0	100.0	2.000
	739.7	3.90	0	0	10.0	100.0	2.000
	761.7	3.88	0	0	10.0	100.0	2.000
	742.0	3.83	0	0	10.0	100.0	2.000
	744.3	3.78	0	0	10.0	100.0	2.000
	797.0	3.78	0	0	10.0	100.0	2.000
	779.5	3.75	0	0	10.0	100.0	2.000
	792.8	3.71	0	0	10.0	100.0	2.000
	799.5	3.67	0	0	10.0	100.0	2.000
	819.2	3.68	0	0	10.0	100.0	2.000
	843.4	3.67	0	0	10.0	100.0	2.000
	779.8	3.62	0	0	10.0	100.0	2.000
	806.2	3.61	0	0	10.0	100.0	2.000
	826.0	3.61	0	0	10.0	100.0	2.000
	821.5	3.66	0	0	10.0	100.0	2.000
	819.4	3.58	0	0	10.0	100.0	2.000
	830.5	3.55	0	0	10.0	100.0	2.000
	837.1	3.52	0	0	10.0	100.0	2.000
	835.0	3.50	0	0	10.0	100.0	2.000
	832.9	3.46	0	0	10.0	100.0	2.000
	907.7	3.39	0	0	10.0	100.0	2.000
	890.3	3.31	0	0	10.0	100.0	2.000
	890.4	3.26	0	0	10.0	100.0	2.000
	978.4	3.19	0	0	10.0	100.0	2.000
	965.3	3.16	0	0	10.0	100.0	2.000
	978.5	3.14	0	0	10.0	100.0	2.000
	956.7	3.09	0	0	10.0	100.0	2.000
	954.6	3.06	0	0	10.0	100.0	2.000
	1002.8	3.07	0	0	10.0	100.0	2.000
	994.0	3.09	0	0	10.0	100.0	2.000
	1060.3	2.93	0	0	10.0	100.0	2.000
	1051.4	2.95	0	0	10.0	100.0	2.000
	1027.4	2.89	0	0	10.0	100.0	2.000
	1069.2	2.86	0	0	10.0	100.0	2.000
	1027.3	2.93	0	0	10.0	100.0	2.000
	1025.0	2.97	0	0	10.0	100.0	2.000
	1029.3	3.01	0	0	10.0	100.0	2.000
	1102.4	2.72	0	0	10.0	100.0	2.000
	1131.0	2.73	0	0	10.0	100.0	2.000
	1130.8	2.82	0	0	10.0	100.0	2.000
	1128.6	2.79	0	0	10.0	100.0	2.000
	1133.1	2.78	0	0	10.0	100.0	2.000
	1102.3	2.77	0	0	10.0	100.0	2.000
	1104.5	2.78	0	0	10.0	100.0	2.000
	1086.9	2.81	0	0	10.0	100.0	2.000
	1091.2	2.83	0	0	10.0	100.0	2.000
	1197.3	2.53	0	0	10.0	100.0	2.000
	1177.5	2.55	0	0	10.0	100.0	2.000
	1181.7	2.61	0	0	10.0	100.0	2.000
	1274.4	2.43	0	0	10.0	100.0	2.000
	1252.4	2.44	0	0	10.0	100.0	2.000
	1234.8	2.46	0	0	10.0	100.0	2.000
	1254.5	2.48	0	0	10.0	100.0	2.000
	1254.4	2.52	0	0	10.0	100.0	2.000
	1269.8	2.51	0	0	10.0	100.0	2.000
	1225.8	2.57	0	0	10.0	100.0	2.000
	1225.9	2.52	0	0	10.0	100.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1311.8	2.40	0	0	10.0	100.0	2.000
	1311.8	2.37	0	0	10.0	100.0	2.000
	1311.9	2.34	0	0	10.0	100.0	2.000
	1333.9	2.32	0	0	10.0	100.0	2.000
	1388.8	2.31	0	0	10.0	100.0	2.000
	1386.7	2.29	0	0	10.0	100.0	2.000
	1386.8	2.26	0	0	10.0	100.0	2.000
	1432.9	2.25	0	0	10.0	100.0	2.000
	1432.8	2.30	0	0	10.0	100.0	2.000
	1487.8	2.24	0	0	10.0	100.0	2.000
	1490.1	2.20	0	0	10.0	100.0	2.000
	1488.0	2.18	0	0	10.0	100.0	2.000
	1531.9	2.18	0	0	10.0	100.0	2.000
	1531.9	2.19	0	0	10.0	100.0	2.000
	1531.7	2.27	0	0	10.0	100.0	2.000
	1591.2	2.18	0	0	10.0	100.0	2.000
	1591.2	2.15	0	0	10.0	100.0	2.000
	1641.7	2.18	0	0	10.0	100.0	2.000
	1589.2	2.09	0	0	10.0	100.0	2.000
	1641.8	2.11	0	0	10.0	100.0	2.000
	1644.0	2.12	0	0	10.0	100.0	2.000
	1648.6	2.04	0	0	10.0	100.0	2.000
	1753.9	2.08	0	0	10.0	100.0	2.000
	1753.9	2.10	0	0	10.0	100.0	2.000
	1804.4	2.08	0	0	10.0	100.0	2.000
	1837.4	2.08	0	0	10.0	100.0	2.000
	1865.9	2.11	0	0	10.0	100.0	2.000
	1960.3	2.13	0	0	10.0	100.0	2.000
	1964.7	2.09	0	0	10.0	100.0	2.000
	1945.0	2.08	0	0	10.0	100.0	2.000
	1942.8	2.10	0	0	10.0	100.0	2.000
	2087.6	2.14	0	0	10.0	100.0	2.000
	2085.5	2.12	0	0	10.0	100.0	2.000
	2043.7	2.13	0	0	10.0	100.0	2.000
	2043.8	2.11	0	0	10.0	100.0	2.000
	2043.8	2.09	0	0	10.0	100.0	2.000
	2196.8	2.40	0	0	10.0	100.0	1.986
	2196.9	2.38	0	0	10.0	100.0	1.986
	2109.1	2.37	0	0	10.0	100.0	1.986
	2104.8	2.31	0	0	10.0	100.0	1.986
	2109.3	2.28	0	0	10.0	100.0	1.986
	2100.6	2.24	0	0	10.0	100.0	1.986
	2015.0	2.20	0	0	10.0	100.0	1.986
	2012.7	2.24	0	0	10.0	100.0	1.986
	1979.7	2.26	0	0	10.0	100.0	1.986
	1981.9	2.28	0	0	10.0	100.0	1.986
	1889.9	2.19	0	0	10.0	100.0	1.986
	1889.8	2.20	0	0	10.0	100.0	1.986
	1826.1	2.22	0	0	10.0	100.0	1.986
	1775.6	2.21	0	0	10.0	100.0	1.986
	1823.9	2.22	0	0	10.0	100.0	1.986
	1775.7	2.17	0	0	10.0	100.0	1.986
	1683.4	2.20	0	0	10.0	100.0	1.986
	1676.9	2.16	0	0	10.0	100.0	1.986
	1586.8	2.16	0	0	10.0	100.0	1.986
	1582.3	2.24	0	0	10.0	100.0	1.986
	1520.8	2.24	0	0	10.0	100.0	1.986
	1549.2	2.28	0	0	10.0	100.0	1.986
	1553.5	2.32	0	0	10.0	100.0	1.986
	1470.2	2.25	0	0	10.0	100.0	1.986
	1470.3	2.24	0	0	10.0	100.0	1.986
	1347.0	2.35	0	0	10.0	100.0	1.986
	1349.2	2.37	0	0	10.0	100.0	1.986
	1351.3	2.43	0	0	10.0	100.0	1.986
	1287.4	2.51	0	0	10.0	100.0	1.986
	1285.2	2.52	0	0	10.0	100.0	1.986

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1236.9	2.50	0	0	10.0	100.0	1.986
	1256.8	2.45	0	0	10.0	100.0	1.986
	1206.0	2.57	0	0	10.0	100.0	1.986
	1208.1	2.63	0	0	10.0	100.0	1.986
	1148.8	2.62	0	0	10.0	100.0	1.986
	1148.7	2.67	0	0	10.0	100.0	1.986
	1177.2	2.67	0	0	10.0	100.0	1.986
	1126.6	2.73	0	0	10.0	100.0	1.986
	1009.6	2.99	0	0	10.0	100.0	1.986
	971.8	3.19	0	0	10.0	100.0	1.986
	972.2	3.04	0	0	10.0	100.0	1.986
	868.9	3.08	0	0	10.0	100.0	1.986
	892.7	3.23	0	0	10.0	100.0	1.986
	890.2	3.37	0	0	10.0	100.0	1.986
	888.2	3.27	0	0	10.0	100.0	1.986
	810.9	3.47	0	0	10.0	100.0	1.986
	755.8	3.54	0	0	10.0	100.0	1.986
	806.4	3.52	0	0	10.0	100.0	1.986
	755.5	3.71	0	0	10.0	100.0	1.986
	775.0	3.84	0	0	10.0	100.0	1.986
	744.3	3.78	0	0	10.0	100.0	1.986
	720.0	3.88	0	0	10.0	100.0	1.986
	722.0	3.95	0	0	10.0	100.0	1.986
	701.6	3.24	0	0	10.0	100.0	1.973
	714.8	3.23	0	0	10.0	100.0	1.973
	714.7	3.27	0	0	10.0	100.0	1.973
	761.0	3.17	0	0	10.0	100.0	1.973
	732.6	3.13	0	0	10.0	100.0	1.973
	730.5	3.09	0	0	10.0	100.0	1.973
	726.2	3.06	0	0	10.0	100.0	1.973
	785.6	2.97	0	0	10.0	100.0	1.973
	785.7	2.96	0	0	10.0	100.0	1.973
	781.4	2.88	0	0	10.0	100.0	1.973
	807.8	2.88	0	0	10.0	100.0	1.973
	876.0	2.85	0	0	10.0	100.0	1.973
	865.1	2.79	0	0	10.0	100.0	1.973
	891.5	2.78	0	0	10.0	100.0	1.973
	865.2	2.73	0	0	10.0	100.0	1.973
	891.6	2.71	0	0	10.0	100.0	1.973
	946.7	2.66	0	0	10.0	100.0	1.973
	1032.7	2.48	0	0	10.0	100.0	1.973
	1013.0	2.46	0	0	10.0	100.0	1.973
	1063.7	2.37	0	0	10.0	100.0	1.973
	1127.5	2.32	0	0	10.0	100.0	1.973
	1215.6	2.20	0	0	10.0	100.0	1.973
	1193.7	2.17	0	0	10.0	100.0	1.973
	1187.0	2.20	0	0	10.0	100.0	1.973
	1299.1	2.17	0	0	10.0	100.0	1.973
	1270.7	2.13	0	0	10.0	100.0	1.973
	1248.7	2.11	0	0	10.0	100.0	1.973
	1246.5	2.13	0	0	10.0	100.0	1.973
	1382.7	2.11	0	0	10.0	100.0	1.973
	1382.8	2.06	0	0	10.0	100.0	1.973
	1411.4	2.03	0	0	10.0	100.0	1.973
	1409.3	1.99	0	0	10.0	100.0	1.973
	1446.7	1.98	0	0	10.0	100.0	1.973
	1448.9	1.95	0	0	10.0	100.0	1.973
	1503.8	1.98	0	0	10.0	100.0	1.973
	1501.6	1.96	0	0	10.0	100.0	1.973
	1596.0	1.97	0	0	10.0	100.0	1.973
	1598.3	1.94	0	0	10.0	100.0	1.973
	1626.9	1.93	0	0	10.0	100.0	1.973
	1626.9	1.91	0	0	10.0	100.0	1.973
	1688.4	1.89	0	0	10.0	100.0	1.973
	1686.4	1.85	0	0	10.0	100.0	1.973
	1708.1	1.93	0	0	10.0	100.0	1.973
	1769.7	1.92	0	0	10.0	100.0	1.973

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1769.7	1.88	0	0	10.0	100.0	1.973
	1818.0	1.89	0	0	10.0	100.0	1.973
	1820.3	1.87	0	0	10.0	100.0	1.973
	1859.7	1.90	0	0	10.0	100.0	1.973
	1925.7	1.88	0	0	10.0	100.0	1.973
	1932.1	1.93	0	0	10.0	100.0	1.973
	1986.9	1.98	0	0	10.0	100.0	1.973
	1989.1	2.02	0	0	10.0	100.0	1.973
	2028.6	2.02	0	0	10.0	100.0	1.973
	2033.1	1.96	0	0	10.0	100.0	1.973
	2125.3	1.99	0	0	10.0	100.0	1.973
	2125.2	2.02	0	0	10.0	100.0	1.973
	2111.9	2.10	0	0	10.0	100.0	1.973
	2111.9	2.09	0	0	10.0	100.0	1.973
	2274.2	2.17	0	0	10.0	100.0	1.973
	2272.1	2.14	0	0	10.0	100.0	1.973
	2199.7	2.09	0	0	10.0	100.0	1.973
	2212.8	2.12	0	0	10.0	100.0	1.973
	2212.9	2.09	0	0	10.0	100.0	1.973
	2278.8	2.09	0	0	10.0	100.0	1.968
	2215.0	2.16	0	0	10.0	100.0	1.968
	2217.2	2.11	0	0	10.0	100.0	1.968
	2101.1	2.02	0	0	10.0	100.0	1.968
	2101.2	1.96	0	0	10.0	100.0	1.968
	2138.5	1.95	0	0	10.0	100.0	1.968
	2145.2	1.92	0	0	10.0	100.0	1.968
	2235.2	1.92	0	0	10.0	100.0	1.968
	2230.8	1.95	0	0	10.0	100.0	1.968
	2050.8	1.91	0	0	10.0	100.0	1.968
	2048.7	1.86	0	0	10.0	100.0	1.968
	2006.8	1.95	0	0	10.0	100.0	1.968
	2006.7	2.00	0	0	10.0	100.0	1.968
	1952.0	1.88	0	0	10.0	100.0	1.968
	1952.1	1.84	0	0	10.0	100.0	1.968
	1871.0	1.77	0	0	10.0	100.0	1.968
	1868.7	1.80	0	0	10.0	100.0	1.968
	1871.0	1.77	0	0	10.0	100.0	1.968
	1794.1	1.78	0	0	10.0	100.0	1.968
	1791.8	1.84	0	0	10.0	100.0	1.968
	1657.7	1.88	0	0	10.0	100.0	1.968
	1565.7	1.78	0	0	10.0	100.0	1.968
	1565.6	1.81	0	0	10.0	100.0	1.968
	1563.2	1.94	0	0	10.0	100.0	1.968
	1497.5	1.82	0	0	10.0	100.0	1.968
	1497.5	1.84	0	0	10.0	100.0	1.968
	1420.5	1.89	0	0	10.0	100.0	1.968
	1418.3	1.91	0	0	10.0	100.0	1.968
	1464.4	1.92	0	0	10.0	100.0	1.968
	1466.5	1.97	0	0	10.0	100.0	1.968
	1323.7	1.99	0	0	10.0	100.0	1.968
	1347.6	2.10	0	0	10.0	100.0	1.968
	1253.3	2.03	0	0	10.0	100.0	1.968
	1253.2	2.08	0	0	10.0	100.0	1.968
	1167.5	2.11	0	0	10.0	100.0	1.968
	1127.8	2.16	0	0	10.0	100.0	1.968
	1143.0	2.27	0	0	10.0	100.0	1.968
	1030.8	2.35	0	0	10.0	100.0	1.968
	1002.3	2.31	0	0	10.0	100.0	1.968
	1000.0	2.37	0	0	10.0	100.0	1.968
	969.0	2.47	0	0	10.0	100.0	1.968
	986.6	2.49	0	0	10.0	100.0	1.968
	968.9	2.52	0	0	10.0	100.0	1.968
	949.1	2.53	0	0	10.0	100.0	1.968
	949.1	2.57	0	0	10.0	100.0	1.968
	883.1	2.61	0	0	10.0	100.0	1.968
	834.3	2.83	0	0	10.0	100.0	1.968

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	814.6	2.79	0	0	10.0	100.0	1.968
	721.2	3.30	0	0	10.0	100.0	1.965
	761.0	3.18	0	0	10.0	100.0	1.965
	796.2	3.15	0	0	10.0	100.0	1.965
	767.8	3.11	0	0	10.0	100.0	1.965
	717.2	3.12	0	0	10.0	100.0	1.965
	721.7	3.08	0	0	10.0	100.0	1.965
	737.3	2.96	0	0	10.0	100.0	1.965
	732.9	3.00	0	0	10.0	100.0	1.965
	774.5	3.05	0	0	10.0	100.0	1.965
	796.4	3.07	0	0	10.0	100.0	1.965
	776.8	3.02	0	0	10.0	100.0	1.965
	807.8	2.90	0	0	10.0	100.0	1.965
	847.1	2.99	0	0	10.0	100.0	1.965
	847.0	3.04	0	0	10.0	100.0	1.965
	877.7	3.04	0	0	10.0	100.0	1.965
	880.1	2.96	0	0	10.0	100.0	1.965
	810.1	2.84	0	0	10.0	100.0	1.965
	915.7	2.76	0	0	10.0	100.0	1.965
	915.7	2.77	0	0	10.0	100.0	1.965
	880.7	2.69	0	0	10.0	100.0	1.965
	880.8	2.66	0	0	10.0	100.0	1.965
	878.6	2.64	0	0	10.0	100.0	1.965
	1006.0	2.66	0	0	10.0	100.0	1.965
	1019.2	2.63	0	0	10.0	100.0	1.965
	1006.1	2.61	0	0	10.0	100.0	1.965
	1019.3	2.58	0	0	10.0	100.0	1.965
	1103.0	2.47	0	0	10.0	100.0	1.965
	1087.7	2.43	0	0	10.0	100.0	1.965
	1103.1	2.41	0	0	10.0	100.0	1.965
	1090.0	2.38	0	0	10.0	100.0	1.965
	1021.9	2.41	0	0	10.0	100.0	1.965
	1173.5	2.37	0	0	10.0	100.0	1.965
	1169.0	2.43	0	0	10.0	100.0	1.965
	1175.8	2.30	0	0	10.0	100.0	1.965
	1173.9	2.17	0	0	10.0	100.0	1.965
	1241.8	2.27	0	0	10.0	100.0	1.965
	1244.0	2.26	0	0	10.0	100.0	1.965
	1303.3	2.27	0	0	10.0	100.0	1.965
Fujino et al. (2001)							
	279.2	7.92	0	0	0	95.9	2.000
	524.6	5.48	0	0	0	95.9	2.000
	730.0	4.45	0	0	0	95.9	2.000
	962.5	3.73	0	0	0	95.9	2.000
	1181.5	3.19	0	0	0	95.9	2.000
	1410.7	2.79	0	0	0	95.9	2.000
	1613.0	2.56	0	0	0	95.9	2.000
	291.2	3.41	60	0	0	95.9	2.000
	537.2	2.87	60	0	0	95.9	2.000
	746.2	2.48	60	0	0	95.9	2.000
	968.8	2.37	60	0	0	95.9	2.000
	1184.5	2.15	60	0	0	95.9	2.000
	1413.9	2.13	60	0	0	95.9	2.000
	1413.9	2.27	60	0	0	95.9	2.000
	1616.2	2.04	60	0	0	95.9	2.000
	1616.2	2.14	60	0	0	95.9	2.000
	278.2	4.77	60	0	0	95.9	2.000
	524.0	3.65	60	0	0	95.9	2.000
	729.5	3.10	60	0	0	95.9	2.000
	965.5	2.69	60	0	0	95.9	2.000
	1184.6	2.40	60	0	0	95.9	2.000
Albers et al. (2001)							
	366.6	6.54	0	0	0	95.3	2.000
	669.9	4.53	0	0	0	95.3	2.000
	1074.1	3.24	0	0	0	95.3	2.000
	1472.1	2.36	0	0	0	95.3	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	366.6	6.57	0	0	0	95.3	2.000
	366.5	6.63	0	0	0	95.3	2.000
	672.8	4.58	0	0	0	95.3	2.000
	671.3	4.64	0	0	0	95.3	2.000
	1074.0	3.28	0	0	0	95.3	2.000
	1075.5	3.28	0	0	0	95.3	2.000
	1472.0	2.45	0	0	0	95.3	2.000
	1472.1	2.37	0	0	0	95.3	2.000
Shaw et al. (2001)							
	541.4	5.69	0	0	0	95.0	2.000
	538.9	5.50	0	0	0	95.0	2.000
	538.9	5.54	0	0	0	95.0	2.000
	541.6	5.38	0	0	0	95.0	2.000
	541.6	5.34	0	0	0	95.0	2.000
	657.5	4.80	0	0	0	95.0	2.000
	665.3	4.89	0	0	0	95.0	2.000
	665.3	4.91	0	0	0	95.0	2.000
	662.8	4.72	0	0	0	95.0	2.000
	778.6	4.18	0	0	0	95.0	2.000
	778.6	4.27	0	0	0	95.0	2.000
	778.6	4.20	0	0	0	95.0	2.000
	894.4	3.75	0	0	0	95.0	2.000
	897.0	3.82	0	0	0	95.0	2.000
	899.6	3.84	0	0	0	95.0	2.000
	999.6	3.43	0	0	0	95.0	2.000
	999.6	3.50	0	0	0	95.0	2.000
	999.6	3.52	0	0	0	95.0	2.000
	1102.2	3.15	0	0	0	95.0	2.000
	1102.2	3.19	0	0	0	95.0	2.000
	1102.2	3.10	0	0	0	95.0	2.000
	1202.1	2.94	0	0	0	95.0	2.000
	1202.1	2.97	0	0	0	95.0	2.000
	1202.1	3.06	0	0	0	95.0	2.000
	1202.0	3.10	0	0	0	95.0	2.000
	1291.5	2.66	0	0	0	95.0	2.000
	1291.5	2.69	0	0	0	95.0	2.000
	1291.5	2.80	0	0	0	95.0	2.000
	1388.8	2.55	0	0	0	95.0	2.000
	1388.7	2.64	0	0	0	95.0	2.000
	1388.7	2.66	0	0	0	95.0	2.000
	1388.7	2.82	0	0	0	95.0	2.000
	1388.7	2.66	0	0	0	95.0	2.000
	1475.5	2.36	0	0	0	95.0	2.000
	1478.2	2.40	0	0	0	95.0	2.000
	1478.1	2.43	0	0	0	95.0	2.000
	1475.5	2.54	0	0	0	95.0	2.000
	1570.2	2.18	0	0	0	95.0	2.000
	1570.2	2.20	0	0	0	95.0	2.000
	1570.2	2.24	0	0	0	95.0	2.000
	1570.1	2.34	0	0	0	95.0	2.000
	1662.2	2.11	0	0	0	95.0	2.000
	1662.1	2.15	0	0	0	95.0	2.000
	1662.1	2.15	0	0	0	95.0	2.000
	1662.1	2.35	0	0	0	95.0	2.000
	1756.3	2.14	0	0	0	95.0	2.000
	1756.3	2.02	0	0	0	95.0	2.000
	1758.6	1.92	0	0	0	95.0	2.000
	1857.0	2.02	0	0	0	95.0	2.000
	1852.6	2.08	0	0	0	95.0	2.000
	1854.8	2.19	0	0	0	95.0	2.000
	1854.8	2.23	0	0	0	95.0	2.000
Amaya et al. (2002)[†]							
	306.3	2.94	39.30	0.0	0	96.4	2.000
	468.0	3.08	39.30	0.0	0	96.4	2.000
	563.6	3.02	39.30	0.0	0	96.4	2.000
	676.9	2.84	39.30	0.0	0	96.4	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	781.3	2.70	39.30	0.0	0	96.4	2.000
	882.8	2.60	39.30	0.0	0	96.4	2.000
	990.4	2.55	39.30	0.0	0	96.4	2.000
	1175.6	2.45	39.30	0.0	0	96.4	2.000
	462.8	3.63	39.30	0.0	0	96.4	2.000
	674.4	3.15	39.30	0.0	0	96.4	2.000
	877.2	2.81	39.30	0.0	0	96.4	2.000
	1083.0	2.55	39.30	0.0	0	96.4	2.000
	1274.1	2.39	39.30	0.0	0	96.4	2.000
	1381.8	2.45	39.30	0.0	0	96.4	2.000
	467.9	5.05	39.30	0.0	0	96.4	2.000
	669.3	3.79	39.30	0.0	0	96.4	2.000
	877.7	3.19	39.30	0.0	0	96.4	2.000
	1483.4	2.41	39.30	0.0	0	96.4	2.000
	1569.9	2.27	39.30	0.0	0	96.4	2.000
	1674.5	2.21	39.30	0.0	0	96.4	2.000
	1776.1	2.23	39.30	0.0	0	96.4	2.000
	1874.8	2.21	39.30	0.0	0	96.4	2.000
	497.3	2.75	60.00	0.0	0	95.6	2.000
	571.0	2.50	60.00	0.0	0	95.6	2.000
	686.3	2.48	60.00	0.0	0	95.6	2.000
	786.8	2.36	60.00	0.0	0	95.6	2.000
	857.8	2.40	60.00	0.0	0	95.6	2.000
	979.2	2.44	60.00	0.0	0	95.6	2.000
	1177.1	2.18	60.00	0.0	0	95.6	2.000
	500.9	3.24	60.00	0.0	0	95.6	2.000
	695.5	2.75	60.00	0.0	0	95.6	2.000
	846.3	2.61	60.00	0.0	0	95.6	2.000
	1070.9	2.44	60.00	0.0	0	95.6	2.000
	1286.7	2.28	60.00	0.0	0	95.6	2.000
	1399.1	2.30	60.00	0.0	0	95.6	2.000
	1499.6	2.18	60.00	0.0	0	95.6	2.000
	522.2	3.79	60.00	0.0	0	95.6	2.000
	687.3	3.32	60.00	0.0	0	95.6	2.000
	834.8	2.91	60.00	0.0	0	95.6	2.000
	1059.4	2.69	60.00	0.0	0	95.6	2.000
	1600.2	2.22	60.00	0.0	0	95.6	2.000
	1709.6	2.12	60.00	0.0	0	95.6	2.000
	1813.1	2.06	60.00	0.0	0	95.6	2.000
	1898.6	1.87	60.00	0.0	0	95.6	2.000
	498.4	2.44	43.50	4.5	0	96.3	2.000
	595.5	2.40	43.50	4.5	0	96.3	2.000
	705.1	2.29	43.50	4.5	0	96.3	2.000
	764.6	2.29	43.50	4.5	0	96.3	2.000
	871.1	2.17	43.50	4.5	0	96.3	2.000
	984.0	2.25	43.50	4.5	0	96.3	2.000
	1100.0	2.23	43.50	4.5	0	96.3	2.000
	1178.3	2.23	43.50	4.5	0	96.3	2.000
	517.6	2.77	43.50	4.5	0	96.3	2.000
	652.2	2.60	43.50	4.5	0	96.3	2.000
	880.8	2.44	43.50	4.5	0	96.3	2.000
	1247.4	2.29	43.50	4.5	0	96.3	2.000
	1382.2	2.27	43.50	4.5	0	96.3	2.000
	1479.2	2.19	43.50	4.5	0	96.3	2.000
	493.1	3.23	43.50	4.5	0	96.3	2.000
	646.4	3.02	43.50	4.5	0	96.3	2.000
	856.1	2.77	43.50	4.5	0	96.3	2.000
	1588.7	2.02	43.50	4.5	0	96.3	2.000
	1688.8	1.81	43.50	4.5	0	96.3	2.000
	1870.4	1.62	43.50	4.5	0	96.3	2.000
	488.1	2.65	50.70	4.5	0	95.9	2.000
	581.3	2.33	50.70	4.5	0	95.9	2.000
	674.8	2.29	50.70	4.5	0	95.9	2.000
	789.4	2.26	50.70	4.5	0	95.9	2.000
	843.7	2.26	50.70	4.5	0	95.9	2.000
	970.4	2.24	50.70	4.5	0	95.9	2.000
	1063.9	2.22	50.70	4.5	0	95.9	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1175.4	2.16	50.70	4.5	0	95.9	2.000
	500.3	2.85	50.70	4.5	0	95.9	2.000
	696.2	2.67	50.70	4.5	0	95.9	2.000
	846.9	2.48	50.70	4.5	0	95.9	2.000
	1066.9	2.30	50.70	4.5	0	95.9	2.000
	1286.9	2.05	50.70	4.5	0	95.9	2.000
	1404.6	2.05	50.70	4.5	0	95.9	2.000
	1498.2	2.17	50.70	4.5	0	95.9	2.000
	500.8	3.35	50.70	4.5	0	95.9	2.000
	684.5	3.09	50.70	4.5	0	95.9	2.000
	844.2	2.80	50.70	4.5	0	95.9	2.000
	1061.1	2.56	50.70	4.5	0	95.9	2.000
Ronchi et al. (2004)†							
	500.0	2.93	34	0	0	95.0	2.000
	550.0	2.85	34	0	0	95.0	2.000
	600.0	2.77	34	0	0	95.0	2.000
	650.0	2.69	34	0	0	95.0	2.000
	700.0	2.62	34	0	0	95.0	2.000
	750.0	2.55	34	0	0	95.0	2.000
	800.0	2.47	34	0	0	95.0	2.000
	850.0	2.40	34	0	0	95.0	2.000
	900.0	2.34	34	0	0	95.0	2.000
	950.0	2.29	34	0	0	95.0	2.000
	1000.0	2.24	34	0	0	95.0	2.000
	1050.0	2.20	34	0	0	95.0	2.000
	1100.0	2.15	34	0	0	95.0	2.000
	1150.0	2.10	34	0	0	95.0	2.000
	1200.0	2.05	34	0	0	95.0	2.000
	1250.0	1.97	34	0	0	95.0	2.000
	1300.0	1.92	34	0	0	95.0	2.000
	1350.0	1.90	34	0	0	95.0	2.000
	1400.0	1.90	34	0	0	95.0	2.000
	1450.0	1.90	34	0	0	95.0	2.000
	500.0	3.80	34	0	0	95.0	2.000
	550.0	3.62	34	0	0	95.0	2.000
	600.0	3.45	34	0	0	95.0	2.000
	650.0	3.30	34	0	0	95.0	2.000
	700.0	3.16	34	0	0	95.0	2.000
	750.0	3.04	34	0	0	95.0	2.000
	800.0	2.92	34	0	0	95.0	2.000
	850.0	2.81	34	0	0	95.0	2.000
	900.0	2.71	34	0	0	95.0	2.000
	950.0	2.62	34	0	0	95.0	2.000
	1000.0	2.53	34	0	0	95.0	2.000
	1050.0	2.45	34	0	0	95.0	2.000
	1100.0	2.37	34	0	0	95.0	2.000
	1150.0	2.30	34	0	0	95.0	2.000
	1200.0	2.23	34	0	0	95.0	2.000
	1250.0	2.17	34	0	0	95.0	2.000
	1300.0	2.11	34	0	0	95.0	2.000
	1350.0	2.05	34	0	0	95.0	2.000
	1400.0	1.99	34	0	0	95.0	2.000
	1450.0	1.94	34	0	0	95.0	2.000
	500.0	3.13	34	0	0	95.0	2.000
	550.0	3.00	34	0	0	95.0	2.000
	600.0	2.88	34	0	0	95.0	2.000
	650.0	2.78	34	0	0	95.0	2.000
	700.0	2.68	34	0	0	95.0	2.000
	750.0	2.58	34	0	0	95.0	2.000
	800.0	2.50	34	0	0	95.0	2.000
	850.0	2.41	34	0	0	95.0	2.000
	900.0	2.34	34	0	0	95.0	2.000
	950.0	2.27	34	0	0	95.0	2.000
	1000.0	2.25	34	0	0	95.0	2.000
	1050.0	2.16	34	0	0	95.0	2.000
	1100.0	2.04	34	0	0	95.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1150.0	1.98	34	0	0	95.0	2.000
	1200.0	1.91	34	0	0	95.0	2.000
	1250.0	1.90	34	0	0	95.0	2.000
	1300.0	1.87	34	0	0	95.0	2.000
	1350.0	1.85	34	0	0	95.0	2.000
	1400.0	1.80	34	0	0	95.0	2.000
	1450.0	1.80	34	0	0	95.0	2.000
	500.0	4.03	34	0	0	95.0	2.000
	550.0	3.78	34	0	0	95.0	2.000
	600.0	3.57	34	0	0	95.0	2.000
	650.0	3.38	34	0	0	95.0	2.000
	700.0	3.21	34	0	0	95.0	2.000
	750.0	3.05	34	0	0	95.0	2.000
	800.0	2.91	34	0	0	95.0	2.000
	850.0	2.78	34	0	0	95.0	2.000
	900.0	2.66	34	0	0	95.0	2.000
	950.0	2.56	34	0	0	95.0	2.000
	1000.0	2.46	34	0	0	95.0	2.000
	1050.0	2.37	34	0	0	95.0	2.000
	1100.0	2.28	34	0	0	95.0	2.000
	1150.0	2.20	34	0	0	95.0	2.000
	1200.0	2.13	34	0	0	95.0	2.000
	1250.0	2.06	34	0	0	95.0	2.000
	1300.0	1.99	34	0	0	95.0	2.000
	1350.0	1.93	34	0	0	95.0	2.000
	1400.0	1.87	34	0	0	95.0	2.000
	1450.0	1.82	34	0	0	95.0	2.000
	500.0	3.09	33	0	0	95.0	2.000
	550.0	2.97	33	0	0	95.0	2.000
	600.0	2.85	33	0	0	95.0	2.000
	650.0	2.75	33	0	0	95.0	2.000
	700.0	2.65	33	0	0	95.0	2.000
	750.0	2.56	33	0	0	95.0	2.000
	800.0	2.47	33	0	0	95.0	2.000
	850.0	2.39	33	0	0	95.0	2.000
	900.0	2.32	33	0	0	95.0	2.000
	950.0	2.24	33	0	0	95.0	2.000
	1000.0	2.18	33	0	0	95.0	2.000
	1050.0	2.12	33	0	0	95.0	2.000
	1100.0	2.06	33	0	0	95.0	2.000
	1150.0	2.00	33	0	0	95.0	2.000
	1200.0	1.95	33	0	0	95.0	2.000
	1250.0	1.88	33	0	0	95.0	2.000
	1300.0	1.85	33	0	0	95.0	2.000
	1350.0	1.82	33	0	0	95.0	2.000
	1400.0	1.78	33	0	0	95.0	2.000
	1450.0	1.74	33	0	0	95.0	2.000
	500.0	3.86	33	0	0	95.0	2.000
	550.0	3.65	33	0	0	95.0	2.000
	600.0	3.46	33	0	0	95.0	2.000
	650.0	3.29	33	0	0	95.0	2.000
	700.0	3.14	33	0	0	95.0	2.000
	750.0	3.00	33	0	0	95.0	2.000
	800.0	2.87	33	0	0	95.0	2.000
	850.0	2.76	33	0	0	95.0	2.000
	900.0	2.65	33	0	0	95.0	2.000
	950.0	2.55	33	0	0	95.0	2.000
	1000.0	2.45	33	0	0	95.0	2.000
	1050.0	2.37	33	0	0	95.0	2.000
	1100.0	2.29	33	0	0	95.0	2.000
	1150.0	2.21	33	0	0	95.0	2.000
	1200.0	2.14	33	0	0	95.0	2.000
	1250.0	2.08	33	0	0	95.0	2.000
	1300.0	2.02	33	0	0	95.0	2.000
	1350.0	1.96	33	0	0	95.0	2.000
	1400.0	1.90	33	0	0	95.0	2.000
	1450.0	1.85	33	0	0	95.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	500.0	3.12	34	0	0	95.0	2.000
	550.0	2.97	34	0	0	95.0	2.000
	600.0	2.84	34	0	0	95.0	2.000
	650.0	2.73	34	0	0	95.0	2.000
	700.0	2.62	34	0	0	95.0	2.000
	750.0	2.51	34	0	0	95.0	2.000
	800.0	2.42	34	0	0	95.0	2.000
	850.0	2.33	34	0	0	95.0	2.000
	900.0	2.25	34	0	0	95.0	2.000
	950.0	2.18	34	0	0	95.0	2.000
	1000.0	2.11	34	0	0	95.0	2.000
	1050.0	2.04	34	0	0	95.0	2.000
	1100.0	1.98	34	0	0	95.0	2.000
	1150.0	1.92	34	0	0	95.0	2.000
	1200.0	1.86	34	0	0	95.0	2.000
	1250.0	1.81	34	0	0	95.0	2.000
	1300.0	1.76	34	0	0	95.0	2.000
	1350.0	1.72	34	0	0	95.0	2.000
	1400.0	1.67	34	0	0	95.0	2.000
	1450.0	1.63	34	0	0	95.0	2.000
	500.0	3.28	34	0	0	95.0	2.000
	550.0	3.14	34	0	0	95.0	2.000
	600.0	3.01	34	0	0	95.0	2.000
	650.0	2.89	34	0	0	95.0	2.000
	700.0	2.79	34	0	0	95.0	2.000
	750.0	2.68	34	0	0	95.0	2.000
	800.0	2.59	34	0	0	95.0	2.000
	850.0	2.50	34	0	0	95.0	2.000
	900.0	2.42	34	0	0	95.0	2.000
	950.0	2.34	34	0	0	95.0	2.000
	1000.0	2.27	34	0	0	95.0	2.000
	1050.0	2.20	34	0	0	95.0	2.000
	1100.0	2.14	34	0	0	95.0	2.000
	1150.0	2.08	34	0	0	95.0	2.000
	1200.0	2.02	34	0	0	95.0	2.000
	1250.0	1.97	34	0	0	95.0	2.000
	1300.0	1.92	34	0	0	95.0	2.000
	1350.0	1.87	34	0	0	95.0	2.000
	1400.0	1.82	34	0	0	95.0	2.000
	1450.0	1.78	34	0	0	95.0	2.000
	500.0	2.41	55	0	0	95.0	2.000
	550.0	2.36	55	0	0	95.0	2.000
	600.0	2.32	55	0	0	95.0	2.000
	650.0	2.27	55	0	0	95.0	2.000
	700.0	2.23	55	0	0	95.0	2.000
	750.0	2.19	55	0	0	95.0	2.000
	800.0	2.15	55	0	0	95.0	2.000
	500.0	2.68	51	0	0	95.0	2.000
	550.0	2.60	51	0	0	95.0	2.000
	600.0	2.52	51	0	0	95.0	2.000
	650.0	2.45	51	0	0	95.0	2.000
	700.0	2.38	51	0	0	95.0	2.000
	750.0	2.31	51	0	0	95.0	2.000
	800.0	2.25	51	0	0	95.0	2.000
	850.0	2.19	51	0	0	95.0	2.000
	900.0	2.13	51	0	0	95.0	2.000
	950.0	2.08	51	0	0	95.0	2.000
	1000.0	2.02	51	0	0	95.0	2.000
	1050.0	1.96	51	0	0	95.0	2.000
	1100.0	1.91	51	0	0	95.0	2.000
	1150.0	1.87	51	0	0	95.0	2.000
	1200.0	1.82	51	0	0	95.0	2.000
	1250.0	1.78	51	0	0	95.0	2.000
	1300.0	1.75	51	0	0	95.0	2.000
	1350.0	1.72	51	0	0	95.0	2.000
	1400.0	1.69	51	0	0	95.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1450.0	1.68	51	0	0	95.0	2.000
	500.0	3.48	51	0	0	95.0	2.000
	550.0	3.31	51	0	0	95.0	2.000
	600.0	3.16	51	0	0	95.0	2.000
	650.0	3.03	51	0	0	95.0	2.000
	700.0	2.90	51	0	0	95.0	2.000
	750.0	2.79	51	0	0	95.0	2.000
	800.0	2.68	51	0	0	95.0	2.000
	850.0	2.58	51	0	0	95.0	2.000
	900.0	2.49	51	0	0	95.0	2.000
	950.0	2.40	51	0	0	95.0	2.000
	1000.0	2.32	51	0	0	95.0	2.000
	1050.0	2.25	51	0	0	95.0	2.000
	1100.0	2.18	51	0	0	95.0	2.000
	1150.0	2.11	51	0	0	95.0	2.000
	1200.0	2.05	51	0	0	95.0	2.000
	1250.0	1.99	51	0	0	95.0	2.000
	1300.0	1.94	51	0	0	95.0	2.000
	1350.0	1.89	51	0	0	95.0	2.000
	1400.0	1.84	51	0	0	95.0	2.000
	1450.0	1.79	51	0	0	95.0	2.000
	500.0	2.44	51	0	0	95.0	2.000
	550.0	2.37	51	0	0	95.0	2.000
	600.0	2.32	51	0	0	95.0	2.000
	650.0	2.26	51	0	0	95.0	2.000
	700.0	2.21	51	0	0	95.0	2.000
	750.0	2.16	51	0	0	95.0	2.000
	800.0	2.11	51	0	0	95.0	2.000
	850.0	2.06	51	0	0	95.0	2.000
	900.0	2.02	51	0	0	95.0	2.000
	950.0	1.98	51	0	0	95.0	2.000
	1000.0	1.94	51	0	0	95.0	2.000
	1050.0	1.90	51	0	0	95.0	2.000
	1100.0	1.86	51	0	0	95.0	2.000
	1150.0	1.83	51	0	0	95.0	2.000
	1200.0	1.80	51	0	0	95.0	2.000
	1250.0	1.79	51	0	0	95.0	2.000
	1300.0	1.79	51	0	0	95.0	2.000
	1350.0	1.78	51	0	0	95.0	2.000
	1400.0	1.77	51	0	0	95.0	2.000
	1450.0	1.77	51	0	0	95.0	2.000
	500.0	3.64	51	0	0	95.0	2.000
	550.0	3.44	51	0	0	95.0	2.000
	600.0	3.27	51	0	0	95.0	2.000
	650.0	3.11	51	0	0	95.0	2.000
	700.0	2.96	51	0	0	95.0	2.000
	750.0	2.83	51	0	0	95.0	2.000
	800.0	2.71	51	0	0	95.0	2.000
	850.0	2.59	51	0	0	95.0	2.000
	900.0	2.49	51	0	0	95.0	2.000
	950.0	2.40	51	0	0	95.0	2.000
	1000.0	2.31	51	0	0	95.0	2.000
	1050.0	2.23	51	0	0	95.0	2.000
	1100.0	2.15	51	0	0	95.0	2.000
	1150.0	2.08	51	0	0	95.0	2.000
	1200.0	2.01	51	0	0	95.0	2.000
	1250.0	1.95	51	0	0	95.0	2.000
	1300.0	1.89	51	0	0	95.0	2.000
	1350.0	1.84	51	0	0	95.0	2.000
	1400.0	1.79	51	0	0	95.0	2.000
	1450.0	1.78	51	0	0	95.0	2.000
	500.0	3.46	51	0	0	95.0	2.000
	550.0	3.30	51	0	0	95.0	2.000
	600.0	3.15	51	0	0	95.0	2.000
	650.0	3.01	51	0	0	95.0	2.000
	700.0	2.88	51	0	0	95.0	2.000
	750.0	2.77	51	0	0	95.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	800.0	2.66	51	0	0	95.0	2.000
	850.0	2.56	51	0	0	95.0	2.000
	900.0	2.47	51	0	0	95.0	2.000
	950.0	2.38	51	0	0	95.0	2.000
	1000.0	2.30	51	0	0	95.0	2.000
	1050.0	2.23	51	0	0	95.0	2.000
	1100.0	2.16	51	0	0	95.0	2.000
	1150.0	2.09	51	0	0	95.0	2.000
	1200.0	2.03	51	0	0	95.0	2.000
	1250.0	1.97	51	0	0	95.0	2.000
	1300.0	1.92	51	0	0	95.0	2.000
	1350.0	1.87	51	0	0	95.0	2.000
	1400.0	1.82	51	0	0	95.0	2.000
	1450.0	1.77	51	0	0	95.0	2.000
	500.0	3.65	51	0	0	95.0	2.000
	550.0	3.47	51	0	0	95.0	2.000
	600.0	3.31	51	0	0	95.0	2.000
	650.0	3.16	51	0	0	95.0	2.000
	700.0	3.03	51	0	0	95.0	2.000
	750.0	2.91	51	0	0	95.0	2.000
	800.0	2.79	51	0	0	95.0	2.000
	850.0	2.69	51	0	0	95.0	2.000
	900.0	2.59	51	0	0	95.0	2.000
	950.0	2.50	51	0	0	95.0	2.000
	1000.0	2.42	51	0	0	95.0	2.000
	1050.0	2.34	51	0	0	95.0	2.000
	1100.0	2.26	51	0	0	95.0	2.000
	1150.0	2.19	51	0	0	95.0	2.000
	1200.0	2.13	51	0	0	95.0	2.000
	1250.0	2.07	51	0	0	95.0	2.000
	1300.0	2.01	51	0	0	95.0	2.000
	1350.0	1.95	51	0	0	95.0	2.000
	1400.0	1.90	51	0	0	95.0	2.000
	1450.0	1.85	51	0	0	95.0	2.000
	500.0	2.18	82	0	0	95.0	2.000
	550.0	2.16	82	0	0	95.0	2.000
	600.0	2.14	82	0	0	95.0	2.000
	650.0	2.12	82	0	0	95.0	2.000
	700.0	2.10	82	0	0	95.0	2.000
	750.0	2.08	82	0	0	95.0	2.000
	800.0	2.07	82	0	0	95.0	2.000
	500.0	2.06	96	0	0	95.0	2.000
	550.0	2.04	96	0	0	95.0	2.000
	600.0	2.03	96	0	0	95.0	2.000
	650.0	2.01	96	0	0	95.0	2.000
	700.0	1.99	96	0	0	95.0	2.000
	750.0	1.97	96	0	0	95.0	2.000
	800.0	1.95	96	0	0	95.0	2.000
	500.0	2.50	92	0	0	95.0	2.000
	550.0	2.42	92	0	0	95.0	2.000
	600.0	2.34	92	0	0	95.0	2.000
	650.0	2.27	92	0	0	95.0	2.000
	700.0	2.20	92	0	0	95.0	2.000
	750.0	2.14	92	0	0	95.0	2.000
	800.0	2.08	92	0	0	95.0	2.000
	850.0	2.02	92	0	0	95.0	2.000
	900.0	1.97	92	0	0	95.0	2.000
	950.0	1.92	92	0	0	95.0	2.000
	1000.0	1.87	92	0	0	95.0	2.000
	1050.0	1.82	92	0	0	95.0	2.000
	1100.0	1.78	92	0	0	95.0	2.000
	1150.0	1.74	92	0	0	95.0	2.000
	1200.0	1.70	92	0	0	95.0	2.000
	1250.0	1.66	92	0	0	95.0	2.000
	1300.0	1.62	92	0	0	95.0	2.000
	1350.0	1.59	92	0	0	95.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1400.0	1.56	92	0	0	95.0	2.000
	1450.0	1.52	92	0	0	95.0	2.000
	500.0	2.63	92	0	0	95.0	2.000
	550.0	2.55	92	0	0	95.0	2.000
	600.0	2.47	92	0	0	95.0	2.000
	650.0	2.40	92	0	0	95.0	2.000
	700.0	2.33	92	0	0	95.0	2.000
	750.0	2.26	92	0	0	95.0	2.000
	800.0	2.20	92	0	0	95.0	2.000
	850.0	2.14	92	0	0	95.0	2.000
	900.0	2.08	92	0	0	95.0	2.000
	950.0	2.03	92	0	0	95.0	2.000
	1000.0	1.98	92	0	0	95.0	2.000
	1050.0	1.93	92	0	0	95.0	2.000
	1100.0	1.89	92	0	0	95.0	2.000
	1150.0	1.84	92	0	0	95.0	2.000
	1200.0	1.80	92	0	0	95.0	2.000
	1250.0	1.76	92	0	0	95.0	2.000
	1300.0	1.72	92	0	0	95.0	2.000
	1350.0	1.69	92	0	0	95.0	2.000
	1400.0	1.65	92	0	0	95.0	2.000
	1450.0	1.62	92	0	0	95.0	2.000
Kim et al. (2005)							
	298.0	8.10	0	0	0	97.3	2.000
	373.7	7.24	0	0	0	97.3	2.000
	475.3	6.16	0	0	0	97.3	2.000
	573.3	5.48	0	0	0	97.3	2.000
	675.0	4.92	0	0	0	97.3	2.000
	778.6	4.47	0	0	0	97.3	2.000
	871.0	4.05	0	0	0	97.3	2.000
	974.6	3.59	0	0	0	97.3	2.000
	1074.5	3.24	0	0	0	97.3	2.000
	1172.6	2.96	0	0	0	97.3	2.000
	1272.6	2.78	0	0	0	97.3	2.000
	1372.5	2.62	0	0	0	97.3	2.000
	1474.3	2.49	0	0	0	97.3	2.000
	1576.2	2.35	0	0	0	97.3	2.000
	1674.3	2.28	0	0	0	97.3	2.000
Kato et al. (2006)							
	840.5	4.60	0	0	0	95.0	2.000
	866.0	4.60	0	0	0	95.0	2.000
	878.8	4.48	0	0	0	95.0	2.000
	891.6	4.41	0	0	0	95.0	2.000
	870.4	4.33	0	0	0	95.0	2.000
	980.9	4.20	0	0	0	95.0	2.000
	976.9	3.89	0	0	0	95.0	2.000
	883.5	3.95	0	0	0	95.0	2.000
	1070.5	3.58	0	0	0	95.0	2.000
	1096.0	3.58	0	0	0	95.0	2.000
	1083.1	3.70	0	0	0	95.0	2.000
	1096.1	3.42	0	0	0	95.0	2.000
	1176.9	3.26	0	0	0	95.0	2.000
	1185.1	3.54	0	0	0	95.0	2.000
	1278.8	3.20	0	0	0	95.0	2.000
	1295.8	3.12	0	0	0	95.0	2.000
	1317.0	3.12	0	0	0	95.0	2.000
	1278.9	3.03	0	0	0	95.0	2.000
	1279.0	2.96	0	0	0	95.0	2.000
	1372.4	2.83	0	0	0	95.0	2.000
	1385.3	2.61	0	0	0	95.0	2.000
	1474.5	2.58	0	0	0	95.0	2.000
	1470.1	2.70	0	0	0	95.0	2.000
	1482.9	2.70	0	0	0	95.0	2.000
	1572.1	2.53	0	0	0	95.0	2.000
	1674.2	2.24	0	0	0	95.0	2.000
	1674.1	2.39	0	0	0	95.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1678.2	2.48	0	0	0	95.0	2.000
	1776.0	2.30	0	0	0	95.0	2.000
	1873.7	2.12	0	0	0	95.0	2.000
	2073.2	2.06	0	0	0	95.0	2.000
	2247.1	2.15	0	0	0	95.0	2.000
Sonoda et al. (2007)							
	536.3	2.45	53.00	5	0	91.5	2.000
	538.3	2.44	53.00	5	0	91.5	2.000
	548.5	2.26	53.00	5	0	91.5	2.000
	562.7	2.27	53.00	5	0	91.5	2.000
	568.8	2.24	53.00	5	0	91.5	2.000
	574.9	2.25	53.00	5	0	91.5	2.000
	587.1	2.24	53.00	5	0	91.5	2.000
	587.1	2.22	53.00	5	0	91.5	2.000
	589.2	2.18	53.00	5	0	91.5	2.000
	617.7	2.17	53.00	5	0	91.5	2.000
	621.8	2.15	53.00	5	0	91.5	2.000
	615.6	2.14	53.00	5	0	91.5	2.000
	666.5	2.12	53.00	5	0	91.5	2.000
	662.5	2.08	53.00	5	0	91.5	2.000
	664.5	2.07	53.00	5	0	91.5	2.000
	707.2	2.05	53.00	5	0	91.5	2.000
	707.2	2.05	53.00	5	0	91.5	2.000
	745.9	2.02	53.00	5	0	91.5	2.000
	745.9	2.03	53.00	5	0	91.5	2.000
	778.5	1.99	53.00	5	0	91.5	2.000
	778.5	1.97	53.00	5	0	91.5	2.000
	782.6	1.95	53.00	5	0	91.5	2.000
	817.2	1.96	53.00	5	0	91.5	2.000
	821.2	1.97	53.00	5	0	91.5	2.000
	829.4	1.94	53.00	5	0	91.5	2.000
	851.8	1.93	53.00	5	0	91.5	2.000
	851.8	1.90	53.00	5	0	91.5	2.000
	859.9	1.94	53.00	5	0	91.5	2.000
	919.0	1.84	53.00	5	0	91.5	2.000
	916.9	1.80	53.00	5	0	91.5	2.000
	919.0	1.75	53.00	5	0	91.5	2.000
	984.1	1.71	53.00	5	0	91.5	2.000
	982.1	1.70	53.00	5	0	91.5	2.000
	990.2	1.78	53.00	5	0	91.5	2.000
	1089.9	1.67	53.00	5	0	91.5	2.000
	1092.0	1.69	53.00	5	0	91.5	2.000
	1092.0	1.72	53.00	5	0	91.5	2.000
	1149.0	1.63	53.00	5	0	91.5	2.000
	1183.6	1.59	53.00	5	0	91.5	2.000
	1181.5	1.63	53.00	5	0	91.5	2.000
	1181.5	1.63	53.00	5	0	91.5	2.000
	1218.2	1.55	53.00	5	0	91.5	2.000
	1218.2	1.53	53.00	5	0	91.5	2.000
	1218.2	1.51	53.00	5	0	91.5	2.000
	1220.2	1.49	53.00	5	0	91.5	2.000
	1252.8	1.45	53.00	5	0	91.5	2.000
	1252.8	1.49	53.00	5	0	91.5	2.000
	1252.8	1.52	53.00	5	0	91.5	2.000
	1212.1	1.55	53.00	5	0	91.5	2.000
	1212.1	1.54	53.00	5	0	91.5	2.000
	1191.7	1.51	53.00	5	0	91.5	2.000
	1191.7	1.53	53.00	5	0	91.5	2.000
	1169.3	1.53	53.00	5	0	91.5	2.000
	1169.3	1.55	53.00	5	0	91.5	2.000
	1171.4	1.56	53.00	5	0	91.5	2.000
	1149.0	1.56	53.00	5	0	91.5	2.000
	1149.0	1.54	53.00	5	0	91.5	2.000
	1136.8	1.57	53.00	5	0	91.5	2.000
	1136.8	1.59	53.00	5	0	91.5	2.000
	1114.4	1.57	53.00	5	0	91.5	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1116.4	1.58	53.00	5	0	91.5	2.000
	1110.3	1.60	53.00	5	0	91.5	2.000
	1102.2	1.54	53.00	5	0	91.5	2.000
	1100.1	1.55	53.00	5	0	91.5	2.000
	1065.5	1.55	53.00	5	0	91.5	2.000
	1069.6	1.56	53.00	5	0	91.5	2.000
	1071.6	1.58	53.00	5	0	91.5	2.000
	1073.7	1.60	53.00	5	0	91.5	2.000
	1067.6	1.61	53.00	5	0	91.5	2.000
	1057.4	1.61	53.00	5	0	91.5	2.000
	1057.4	1.59	53.00	5	0	91.5	2.000
	1057.4	1.58	53.00	5	0	91.5	2.000
	1055.3	1.57	53.00	5	0	91.5	2.000
	1041.1	1.56	53.00	5	0	91.5	2.000
	1041.1	1.58	53.00	5	0	91.5	2.000
	1012.6	1.56	53.00	5	0	91.5	2.000
	1010.6	1.57	53.00	5	0	91.5	2.000
	1016.7	1.62	53.00	5	0	91.5	2.000
	1018.7	1.64	53.00	5	0	91.5	2.000
	1018.7	1.67	53.00	5	0	91.5	2.000
	1018.7	1.70	53.00	5	0	91.5	2.000
	996.3	1.70	53.00	5	0	91.5	2.000
	992.2	1.69	53.00	5	0	91.5	2.000
	994.3	1.61	53.00	5	0	91.5	2.000
	1010.6	1.63	53.00	5	0	91.5	2.000
	975.9	1.60	53.00	5	0	91.5	2.000
	978.0	1.63	53.00	5	0	91.5	2.000
	947.5	1.58	53.00	5	0	91.5	2.000
	957.6	1.56	53.00	5	0	91.5	2.000
	957.6	1.63	53.00	5	0	91.5	2.000
	957.6	1.65	53.00	5	0	91.5	2.000
	963.7	1.68	53.00	5	0	91.5	2.000
	947.5	1.68	53.00	5	0	91.5	2.000
	951.5	1.68	53.00	5	0	91.5	2.000
	947.5	1.71	53.00	5	0	91.5	2.000
	916.9	1.72	53.00	5	0	91.5	2.000
	923.0	1.69	53.00	5	0	91.5	2.000
	916.9	1.66	53.00	5	0	91.5	2.000
	900.6	1.65	53.00	5	0	91.5	2.000
	900.6	1.67	53.00	5	0	91.5	2.000
	902.7	1.69	53.00	5	0	91.5	2.000
	888.4	1.69	53.00	5	0	91.5	2.000
	886.4	1.70	53.00	5	0	91.5	2.000
	886.4	1.74	53.00	5	0	91.5	2.000
	866.0	1.66	53.00	5	0	91.5	2.000
	868.1	1.65	53.00	5	0	91.5	2.000
	862.0	1.60	53.00	5	0	91.5	2.000
	841.6	1.70	53.00	5	0	91.5	2.000
	843.6	1.71	53.00	5	0	91.5	2.000
	845.7	1.74	53.00	5	0	91.5	2.000
	813.1	1.73	53.00	5	0	91.5	2.000
	815.1	1.75	53.00	5	0	91.5	2.000
	815.1	1.76	53.00	5	0	91.5	2.000
	802.9	1.78	53.00	5	0	91.5	2.000
	809.0	1.76	53.00	5	0	91.5	2.000
	807.0	1.74	53.00	5	0	91.5	2.000
	754.1	1.78	53.00	5	0	91.5	2.000
	760.2	1.78	53.00	5	0	91.5	2.000
	758.1	1.80	53.00	5	0	91.5	2.000
	748.0	1.81	53.00	5	0	91.5	2.000
	752.0	1.83	53.00	5	0	91.5	2.000
	701.1	1.84	53.00	5	0	91.5	2.000
	705.2	1.86	53.00	5	0	91.5	2.000
	697.1	1.87	53.00	5	0	91.5	2.000
	676.7	1.84	53.00	5	0	91.5	2.000
	678.7	1.85	53.00	5	0	91.5	2.000
	680.8	1.87	53.00	5	0	91.5	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	670.6	1.87	53.00	5	0	91.5	2.000
	670.6	1.85	53.00	5	0	91.5	2.000
	607.5	1.88	53.00	5	0	91.5	2.000
	617.7	1.90	53.00	5	0	91.5	2.000
	613.6	1.91	53.00	5	0	91.5	2.000
	605.5	1.92	53.00	5	0	91.5	2.000
	609.5	1.90	53.00	5	0	91.5	2.000
	611.6	1.87	53.00	5	0	91.5	2.000
	623.8	1.89	53.00	5	0	91.5	2.000
	627.9	1.92	53.00	5	0	91.5	2.000
	621.8	1.92	53.00	5	0	91.5	2.000
	538.3	1.88	53.00	5	0	91.5	2.000
	546.4	1.91	53.00	5	0	91.5	2.000
	544.4	1.94	53.00	5	0	91.5	2.000
	538.3	1.96	53.00	5	0	91.5	2.000
	550.5	1.96	53.00	5	0	91.5	2.000
	538.3	1.98	53.00	5	0	91.5	2.000
	528.1	1.95	53.00	5	0	91.5	2.000
	526.1	1.97	53.00	5	0	91.5	2.000
	542.4	2.02	53.00	5	0	91.5	2.000
Grossi et al. (2009)							
	298.1	7.08	0	0	0	90.0	2.000
Morimoto et al. (2009)							
	913.4	4.08	0	0	20	100.0	2.000
	985.6	3.91	0	0	20	100.0	2.000
	995.9	3.78	0	0	20	100.0	2.000
	1093.9	3.41	0	0	20	100.0	2.000
	1070.7	3.35	0	0	20	100.0	2.000
	1168.7	3.26	0	0	20	100.0	2.000
	1179.0	3.20	0	0	20	100.0	2.000
	1274.4	2.99	0	0	20	100.0	2.000
	1284.7	2.93	0	0	20	100.0	2.000
	1377.5	2.76	0	0	20	100.0	2.000
	1470.3	2.58	0	0	20	100.0	2.000
	1480.7	2.58	0	0	20	100.0	2.000
	1565.7	2.51	0	0	20	100.0	2.000
	1576.1	2.56	0	0	20	100.0	2.000
	1563.2	2.55	0	0	20	100.0	2.000
	1668.9	2.42	0	0	20	100.0	2.000
	1663.7	2.47	0	0	20	100.0	2.000
	1764.3	2.41	0	0	20	100.0	2.000
	869.6	4.20	0	0	30	100.0	2.000
	972.7	3.75	0	0	30	100.0	2.000
	1075.9	3.44	0	0	30	100.0	2.000
	1173.8	3.16	0	0	30	100.0	2.000
	1475.5	2.68	0	0	30	100.0	2.000
	1573.5	2.50	0	0	30	100.0	2.000
	1674.0	2.42	0	0	30	100.0	2.000
	1774.6	2.35	0	0	30	100.0	2.000
	993.4	3.71	0	0	40	100.0	2.000
	1086.2	3.51	0	0	40	100.0	2.000
	1078.5	3.42	0	0	40	100.0	2.000
	1168.7	3.21	0	0	40	100.0	2.000
	1163.5	3.14	0	0	40	100.0	2.000
	1271.8	2.93	0	0	40	100.0	2.000
	1271.8	2.97	0	0	40	100.0	2.000
	1367.2	2.82	0	0	40	100.0	2.000
	1364.6	2.75	0	0	40	100.0	2.000
	1467.8	2.62	0	0	40	100.0	2.000
	1565.7	2.44	0	0	40	100.0	2.000
	1568.3	2.60	0	0	40	100.0	2.000
	1668.9	2.50	0	0	40	100.0	2.000
	1666.3	2.34	0	0	40	100.0	2.000
	1764.3	2.34	0	0	40	100.0	2.000
	1764.3	2.44	0	0	40	100.0	2.000
	1867.4	2.40	0	0	40	100.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
Iwasaki et al. (2009)							
	289.4	5.83	0	10	0	95.0	2.000
	400.5	5.35	0	10	0	95.0	2.000
	504.3	4.80	0	10	0	95.0	2.000
	603.4	4.32	0	10	0	95.0	2.000
	603.4	4.27	0	10	0	95.0	2.000
	704.8	3.90	0	10	0	95.0	2.000
	704.8	3.94	0	10	0	95.0	2.000
	806.3	3.58	0	10	0	95.0	2.000
	905.3	3.31	0	10	0	95.0	2.000
	905.3	3.33	0	10	0	95.0	2.000
	999.5	3.07	0	10	0	95.0	2.000
	999.5	3.10	0	10	0	95.0	2.000
	1101.0	2.97	0	10	0	95.0	2.000
	1197.6	2.86	0	10	0	95.0	2.000
	1277.3	2.76	0	10	0	95.0	2.000
	291.8	3.83	0	14	0	95.0	2.000
	291.8	3.92	0	14	0	95.0	2.000
	402.9	3.85	0	14	0	95.0	2.000
	504.3	3.60	0	14	0	95.0	2.000
	605.8	3.43	0	14	0	95.0	2.000
	704.8	3.26	0	14	0	95.0	2.000
	704.8	3.30	0	14	0	95.0	2.000
	803.9	3.20	0	14	0	95.0	2.000
	910.1	2.99	0	14	0	95.0	2.000
	1001.9	2.90	0	14	0	95.0	2.000
	1098.6	2.88	0	14	0	95.0	2.000
	1195.2	2.78	0	14	0	95.0	2.000
	1274.9	2.59	0	14	0	95.0	2.000
	1274.9	2.65	0	14	0	95.0	2.000
Amaya et al. (2010)							
	295.5	4.27	60.00	0	0	94.4	2.000
	491.7	4.36	60.00	0	0	94.4	2.000
	794.9	3.33	60.00	0	0	94.4	2.000
	996.2	2.88	60.00	0	0	94.4	2.000
	1205.1	2.58	60.00	0	0	94.4	2.000
	1510.8	2.33	60.00	0	0	94.4	2.000
	293.0	3.32	60.00	0	0	94.4	2.000
	293.0	3.11	60.00	0	0	94.4	2.000
	293.0	3.02	60.00	0	0	94.4	2.000
	410.2	3.20	60.00	0	0	94.4	2.000
	501.9	3.17	60.00	0	0	94.4	2.000
	509.6	3.03	60.00	0	0	94.4	2.000
	491.7	3.39	60.00	0	0	94.4	2.000
	596.2	3.14	60.00	0	0	94.4	2.000
	598.7	3.09	60.00	0	0	94.4	2.000
	619.1	2.77	60.00	0	0	94.4	2.000
	695.5	2.73	60.00	0	0	94.4	2.000
	715.9	2.63	60.00	0	0	94.4	2.000
	802.5	2.73	60.00	0	0	94.4	2.000
	805.1	2.50	60.00	0	0	94.4	2.000
	896.8	2.44	60.00	0	0	94.4	2.000
	1001.3	2.43	60.00	0	0	94.4	2.000
	1003.8	2.30	60.00	0	0	94.4	2.000
	1103.2	2.27	60.00	0	0	94.4	2.000
	1205.1	2.27	60.00	0	0	94.4	2.000
	1205.1	2.22	60.00	0	0	94.4	2.000
	1301.9	2.28	60.00	0	0	94.4	2.000
	1401.3	2.25	60.00	0	0	94.4	2.000
	290.5	3.60	126.00	0	0	95.3	2.000
	290.5	3.55	126.00	0	0	95.3	2.000
	293.1	3.40	126.00	0	0	95.3	2.000
	383.0	3.59	126.00	0	0	95.3	2.000
	383.0	3.49	126.00	0	0	95.3	2.000
	496.1	3.64	126.00	0	0	95.3	2.000
	491.0	3.56	126.00	0	0	95.3	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	491.0	3.36	126.00	0	0	95.3	2.000
	601.5	3.30	126.00	0	0	95.3	2.000
	593.8	3.10	126.00	0	0	95.3	2.000
	694.1	3.02	126.00	0	0	95.3	2.000
	696.7	2.92	126.00	0	0	95.3	2.000
	804.6	3.01	126.00	0	0	95.3	2.000
	804.6	2.87	126.00	0	0	95.3	2.000
	802.1	2.72	126.00	0	0	95.3	2.000
	894.6	2.66	126.00	0	0	95.3	2.000
	997.4	2.66	126.00	0	0	95.3	2.000
	1000.0	2.56	126.00	0	0	95.3	2.000
	1097.7	2.58	126.00	0	0	95.3	2.000
	1100.3	2.61	126.00	0	0	95.3	2.000
	1213.4	2.33	126.00	0	0	95.3	2.000
	1213.4	2.42	126.00	0	0	95.3	2.000
	1313.6	2.32	126.00	0	0	95.3	2.000
	1316.2	2.25	126.00	0	0	95.3	2.000
	1413.9	2.30	126.00	0	0	95.3	2.000
	1413.9	2.10	126.00	0	0	95.3	2.000
	1509.0	2.17	126.00	0	0	95.3	2.000
	1501.3	2.26	126.00	0	0	95.3	2.000
	1609.3	2.23	126.00	0	0	95.3	2.000
	1611.8	2.24	126.00	0	0	95.3	2.000
	1609.3	2.39	126.00	0	0	95.3	2.000
	1699.2	2.23	126.00	0	0	95.3	2.000
	1773.8	2.15	126.00	0	0	95.3	2.000
	1776.3	2.25	126.00	0	0	95.3	2.000
	1771.2	2.33	126.00	0	0	95.3	2.000
Kruglov et al. (2010)†							
	936.7	3.80	0	0	0	94.5	2.000
	1006.0	3.58	0	0	0	94.5	2.000
	1102.7	3.46	0	0	0	94.5	2.000
	1162.9	3.34	0	0	0	94.5	2.000
	1246.8	3.10	0	0	0	94.5	2.000
	1374.6	3.01	0	0	0	94.5	2.000
	1438.4	2.84	0	0	0	94.5	2.000
	1544.3	2.77	0	0	0	94.5	2.000
	1644.7	2.71	0	0	0	94.5	2.000
	1754.2	2.64	0	0	0	94.5	2.000
	1861.9	2.63	0	0	0	94.5	2.000
	933.0	3.64	0	0	0	94.5	2.000
	1004.1	3.52	0	0	0	94.5	2.000
	1100.8	3.28	0	0	0	94.5	2.000
	1162.8	3.08	0	0	0	94.5	2.000
	1244.8	2.92	0	0	0	94.5	2.000
	1372.5	2.63	0	0	0	94.5	2.000
	1438.2	2.59	0	0	0	94.5	2.000
	1544.0	2.33	0	0	0	94.5	2.000
	1646.3	2.34	0	0	0	94.5	2.000
	1750.2	1.99	0	0	0	94.5	2.000
	1863.3	1.91	0	0	0	94.5	2.000
Faêda et al. (2010)†							
	304.1	6.82	0	0	0	93.2	2.000
	328.1	6.80	0	0	0	93.2	2.000
	377.1	6.66	0	0	0	93.2	2.000
	448.1	6.19	0	0	0	93.2	2.000
	298.1	7.95	0	0	0	95.0	2.000
	325.1	7.73	0	0	0	95.0	2.000
	373.1	7.50	0	0	0	95.0	2.000
	448.1	6.86	0	0	0	95.0	2.000
Cozzo et al. (2011)							
	531.0	10.32	0	0	100	95.0	2.000
	531.0	10.19	0	0	100	95.0	2.000
	531.0	10.36	0	0	100	95.0	2.000
	714.0	7.25	0	0	100	95.0	2.000
	714.0	7.34	0	0	100	95.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	714.0	7.29	0	0	100	95.0	2.000
	1080.0	4.80	0	0	100	95.0	2.000
	1080.0	4.89	0	0	100	95.0	2.000
	1080.0	5.02	0	0	100	95.0	2.000
	1240.0	4.01	0	0	100	95.0	2.000
	1240.0	4.09	0	0	100	95.0	2.000
	1240.0	4.02	0	0	100	95.0	2.000
	1550.0	3.18	0	0	100	95.0	2.000
	1550.0	3.18	0	0	100	95.0	2.000
	1550.0	3.25	0	0	100	95.0	2.000
White and Nelson (2013)							
	1673.0	2.26	0	0	0	95.0	2.000
	1623.0	2.32	0	0	0	95.0	2.000
	1573.0	2.38	0	0	0	95.0	2.000
	1523.0	2.45	0	0	0	95.0	2.000
	1473.0	2.55	0	0	0	95.0	2.000
	1423.0	2.62	0	0	0	95.0	2.000
	1373.0	2.72	0	0	0	95.0	2.000
	1323.0	2.82	0	0	0	95.0	2.000
	1273.0	2.96	0	0	0	95.0	2.000
	1223.0	3.07	0	0	0	95.0	2.000
	1173.0	3.21	0	0	0	95.0	2.000
	1123.0	3.35	0	0	0	95.0	2.000
	1073.0	3.50	0	0	0	95.0	2.000
	1023.0	3.66	0	0	0	95.0	2.000
	973.0	3.84	0	0	0	95.0	2.000
	923.0	4.04	0	0	0	95.0	2.000
	873.0	4.24	0	0	0	95.0	2.000
	823.0	4.46	0	0	0	95.0	2.000
	773.0	4.71	0	0	0	95.0	2.000
	723.0	4.98	0	0	0	95.0	2.000
	673.0	5.29	0	0	0	95.0	2.000
	623.0	5.62	0	0	0	95.0	2.000
	573.0	6.00	0	0	0	95.0	2.000
	523.0	6.41	0	0	0	95.0	2.000
	473.0	6.90	0	0	0	95.0	2.000
	423.0	7.80	0	0	0	95.0	2.000
	373.0	8.47	0	0	0	95.0	2.000
	323.0	9.07	0	0	0	95.0	2.000
	298.0	9.73	0	0	0	95.0	2.000
	1673.0	1.89	0	0	0	95.0	2.042
	1623.0	1.92	0	0	0	95.0	2.042
	1573.0	1.96	0	0	0	95.0	2.042
	1523.0	2.00	0	0	0	95.0	2.042
	1473.0	2.04	0	0	0	95.0	2.042
	1423.0	2.08	0	0	0	95.0	2.042
	1373.0	2.13	0	0	0	95.0	2.042
	1323.0	2.19	0	0	0	95.0	2.042
	1273.0	2.25	0	0	0	95.0	2.042
	1223.0	2.31	0	0	0	95.0	2.042
	1173.0	2.37	0	0	0	95.0	2.042
	1123.0	2.45	0	0	0	95.0	2.042
	1073.0	2.52	0	0	0	95.0	2.042
	1023.0	2.60	0	0	0	95.0	2.042
	973.0	2.69	0	0	0	95.0	2.042
	923.0	2.77	0	0	0	95.0	2.042
	873.0	2.87	0	0	0	95.0	2.042
	823.0	2.97	0	0	0	95.0	2.042
	773.0	3.08	0	0	0	95.0	2.042
	723.0	3.21	0	0	0	95.0	2.042
	673.0	3.73	0	0	0	95.0	2.042
	623.0	4.23	0	0	0	95.0	2.042
	573.0	4.65	0	0	0	95.0	2.042
	523.0	4.98	0	0	0	95.0	2.042
	473.0	5.31	0	0	0	95.0	2.042
	1673.0	1.84	0	0	0	95.0	2.063

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1623.0	1.85	0	0	0	95.0	2.063
	1573.0	1.88	0	0	0	95.0	2.063
	1523.0	1.90	0	0	0	95.0	2.063
	1473.0	1.94	0	0	0	95.0	2.063
	1423.0	1.97	0	0	0	95.0	2.063
	1373.0	2.00	0	0	0	95.0	2.063
	1323.0	2.04	0	0	0	95.0	2.063
	1273.0	2.09	0	0	0	95.0	2.063
	1223.0	2.12	0	0	0	95.0	2.063
	1173.0	2.18	0	0	0	95.0	2.063
	1123.0	2.22	0	0	0	95.0	2.063
	1073.0	2.29	0	0	0	95.0	2.063
	1023.0	2.34	0	0	0	95.0	2.063
	973.0	2.40	0	0	0	95.0	2.063
	923.0	2.46	0	0	0	95.0	2.063
	873.0	2.53	0	0	0	95.0	2.063
	823.0	2.60	0	0	0	95.0	2.063
	773.0	2.68	0	0	0	95.0	2.063
	723.0	2.87	0	0	0	95.0	2.063
	673.0	3.25	0	0	0	95.0	2.063
	623.0	3.61	0	0	0	95.0	2.063
	573.0	3.93	0	0	0	95.0	2.063
	523.0	4.19	0	0	0	95.0	2.063
	473.0	4.45	0	0	0	95.0	2.063
	1673.0	1.85	0	0	0	95.0	2.072
	1623.0	1.86	0	0	0	95.0	2.072
	1573.0	1.88	0	0	0	95.0	2.072
	1523.0	1.91	0	0	0	95.0	2.072
	1473.0	1.93	0	0	0	95.0	2.072
	1423.0	1.96	0	0	0	95.0	2.072
	1373.0	2.00	0	0	0	95.0	2.072
	1323.0	2.04	0	0	0	95.0	2.072
	1273.0	2.07	0	0	0	95.0	2.072
	1223.0	2.11	0	0	0	95.0	2.072
	1173.0	2.15	0	0	0	95.0	2.072
	1123.0	2.20	0	0	0	95.0	2.072
	1073.0	2.24	0	0	0	95.0	2.072
	1023.0	2.30	0	0	0	95.0	2.072
	973.0	2.35	0	0	0	95.0	2.072
	923.0	2.40	0	0	0	95.0	2.072
	873.0	2.46	0	0	0	95.0	2.072
	823.0	2.52	0	0	0	95.0	2.072
	773.0	2.58	0	0	0	95.0	2.072
	723.0	2.77	0	0	0	95.0	2.072
	673.0	3.11	0	0	0	95.0	2.072
	623.0	3.46	0	0	0	95.0	2.072
	573.0	3.71	0	0	0	95.0	2.072
	523.0	3.96	0	0	0	95.0	2.072
	473.0	4.18	0	0	0	95.0	2.072
	1673.0	1.91	0	0	0	95.0	2.104
	1623.0	1.92	0	0	0	95.0	2.104
	1573.0	1.93	0	0	0	95.0	2.104
	1523.0	1.95	0	0	0	95.0	2.104
	1473.0	1.96	0	0	0	95.0	2.104
	1423.0	1.98	0	0	0	95.0	2.104
	1373.0	2.00	0	0	0	95.0	2.104
	1323.0	2.03	0	0	0	95.0	2.104
	1273.0	2.05	0	0	0	95.0	2.104
	1223.0	2.07	0	0	0	95.0	2.104
	1173.0	2.11	0	0	0	95.0	2.104
	1123.0	2.13	0	0	0	95.0	2.104
	1073.0	2.17	0	0	0	95.0	2.104
	1023.0	2.19	0	0	0	95.0	2.104
	973.0	2.23	0	0	0	95.0	2.104
	923.0	2.26	0	0	0	95.0	2.104
	873.0	2.29	0	0	0	95.0	2.104
	823.0	2.23	0	0	0	95.0	2.104

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	773.0	2.38	0	0	0	95.0	2.104
	723.0	2.57	0	0	0	95.0	2.104
	673.0	2.89	0	0	0	95.0	2.104
	623.0	3.17	0	0	0	95.0	2.104
	573.0	3.39	0	0	0	95.0	2.104
	523.0	3.57	0	0	0	95.0	2.104
	473.0	3.73	0	0	0	95.0	2.104
	1673.0	1.75	0	0	0	95.0	2.143
	1623.0	1.75	0	0	0	95.0	2.143
	1573.0	1.76	0	0	0	95.0	2.143
	1523.0	1.77	0	0	0	95.0	2.143
	1473.0	1.78	0	0	0	95.0	2.143
	1423.0	1.79	0	0	0	95.0	2.143
	1373.0	1.78	0	0	0	95.0	2.143
	1323.0	1.79	0	0	0	95.0	2.143
	1273.0	1.82	0	0	0	95.0	2.143
	1223.0	1.83	0	0	0	95.0	2.143
	1173.0	1.83	0	0	0	95.0	2.143
	1123.0	1.84	0	0	0	95.0	2.143
	1073.0	1.85	0	0	0	95.0	2.143
	1023.0	1.86	0	0	0	95.0	2.143
	973.0	1.88	0	0	0	95.0	2.143
	923.0	1.89	0	0	0	95.0	2.143
	873.0	1.92	0	0	0	95.0	2.143
	823.0	1.96	0	0	0	95.0	2.143
	773.0	2.07	0	0	0	95.0	2.143
	723.0	2.24	0	0	0	95.0	2.143
	673.0	2.44	0	0	0	95.0	2.143
	623.0	2.61	0	0	0	95.0	2.143
	573.0	2.71	0	0	0	95.0	2.143
	523.0	2.80	0	0	0	95.0	2.143
	473.0	2.87	0	0	0	95.0	2.143
	423.0	2.95	0	0	0	95.0	2.143
	373.0	2.95	0	0	0	95.0	2.143
	323.0	3.14	0	0	0	95.0	2.143
	298.0	3.21	0	0	0	95.0	2.143
	1673.0	1.75	0	0	0	95.0	2.160
	1623.0	1.74	0	0	0	95.0	2.160
	1573.0	1.73	0	0	0	95.0	2.160
	1523.0	1.74	0	0	0	95.0	2.160
	1473.0	1.74	0	0	0	95.0	2.160
	1423.0	1.74	0	0	0	95.0	2.160
	1373.0	1.73	0	0	0	95.0	2.160
	1323.0	1.75	0	0	0	95.0	2.160
	1273.0	1.76	0	0	0	95.0	2.160
	1223.0	1.76	0	0	0	95.0	2.160
	1173.0	1.77	0	0	0	95.0	2.160
	1123.0	1.78	0	0	0	95.0	2.160
	1073.0	1.79	0	0	0	95.0	2.160
	1023.0	1.80	0	0	0	95.0	2.160
	973.0	1.81	0	0	0	95.0	2.160
	923.0	1.82	0	0	0	95.0	2.160
	873.0	1.85	0	0	0	95.0	2.160
	823.0	1.89	0	0	0	95.0	2.160
	773.0	1.96	0	0	0	95.0	2.160
	723.0	2.10	0	0	0	95.0	2.160
	673.0	2.27	0	0	0	95.0	2.160
	623.0	2.39	0	0	0	95.0	2.160
	573.0	2.46	0	0	0	95.0	2.160
	523.0	2.53	0	0	0	95.0	2.160
	473.0	2.59	0	0	0	95.0	2.160
	423.0	2.63	0	0	0	95.0	2.160
	373.0	2.62	0	0	0	95.0	2.160
	323.0	2.76	0	0	0	95.0	2.160
	298.0	2.90	0	0	0	95.0	2.160
	1673.0	1.76	0	0	0	95.0	2.164

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1623.0	1.81	0	0	0	95.0	2.164
	1573.0	1.78	0	0	0	95.0	2.164
	1523.0	1.80	0	0	0	95.0	2.164
	1473.0	1.76	0	0	0	95.0	2.164
	1423.0	1.79	0	0	0	95.0	2.164
	1373.0	1.79	0	0	0	95.0	2.164
	1323.0	1.79	0	0	0	95.0	2.164
	1273.0	1.81	0	0	0	95.0	2.164
	1223.0	1.82	0	0	0	95.0	2.164
	1173.0	1.82	0	0	0	95.0	2.164
	1123.0	1.83	0	0	0	95.0	2.164
	1073.0	1.84	0	0	0	95.0	2.164
	1023.0	1.85	0	0	0	95.0	2.164
	973.0	1.86	0	0	0	95.0	2.164
	923.0	1.88	0	0	0	95.0	2.164
	873.0	1.91	0	0	0	95.0	2.164
	823.0	1.95	0	0	0	95.0	2.164
	773.0	2.03	0	0	0	95.0	2.164
	723.0	2.18	0	0	0	95.0	2.164
	673.0	2.35	0	0	0	95.0	2.164
	623.0	2.49	0	0	0	95.0	2.164
	573.0	2.58	0	0	0	95.0	2.164
	523.0	2.65	0	0	0	95.0	2.164
	473.0	2.71	0	0	0	95.0	2.164
	1673.0	1.85	0	0	0	95.0	2.177
	1623.0	1.82	0	0	0	95.0	2.177
	1573.0	1.84	0	0	0	95.0	2.177
	1523.0	1.83	0	0	0	95.0	2.177
	1473.0	1.84	0	0	0	95.0	2.177
	1423.0	1.83	0	0	0	95.0	2.177
	1373.0	1.85	0	0	0	95.0	2.177
	1323.0	1.85	0	0	0	95.0	2.177
	1273.0	1.86	0	0	0	95.0	2.177
	1223.0	1.87	0	0	0	95.0	2.177
	1173.0	1.86	0	0	0	95.0	2.177
	1123.0	1.87	0	0	0	95.0	2.177
	1073.0	1.88	0	0	0	95.0	2.177
	1023.0	1.88	0	0	0	95.0	2.177
	973.0	1.91	0	0	0	95.0	2.177
	923.0	1.91	0	0	0	95.0	2.177
	873.0	1.94	0	0	0	95.0	2.177
	823.0	1.97	0	0	0	95.0	2.177
	773.0	2.02	0	0	0	95.0	2.177
	723.0	2.12	0	0	0	95.0	2.177
	673.0	2.24	0	0	0	95.0	2.177
	623.0	2.33	0	0	0	95.0	2.177
	573.0	2.39	0	0	0	95.0	2.177
	523.0	2.43	0	0	0	95.0	2.177
	473.0	2.47	0	0	0	95.0	2.177
	423.0	2.49	0	0	0	95.0	2.177
	373.0	2.48	0	0	0	95.0	2.177
	323.0	2.56	0	0	0	95.0	2.177
	298.0	2.77	0	0	0	95.0	2.177
	1673.0	1.77	0	0	0	95.0	2.210
	1623.0	1.73	0	0	0	95.0	2.210
	1573.0	1.73	0	0	0	95.0	2.210
	1523.0	1.74	0	0	0	95.0	2.210
	1473.0	1.74	0	0	0	95.0	2.210
	1423.0	1.73	0	0	0	95.0	2.210
	1373.0	1.73	0	0	0	95.0	2.210
	1323.0	1.70	0	0	0	95.0	2.210
	1273.0	1.68	0	0	0	95.0	2.210
	1223.0	1.68	0	0	0	95.0	2.210
	1173.0	1.68	0	0	0	95.0	2.210
	1123.0	1.97	0	0	0	95.0	2.210
	1073.0	1.71	0	0	0	95.0	2.210
	1023.0	1.72	0	0	0	95.0	2.210

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	973.0	1.73	0	0	0	95.0	2.210
	923.0	1.73	0	0	0	95.0	2.210
	873.0	1.74	0	0	0	95.0	2.210
	823.0	1.75	0	0	0	95.0	2.210
	773.0	1.76	0	0	0	95.0	2.210
	723.0	1.79	0	0	0	95.0	2.210
	673.0	1.82	0	0	0	95.0	2.210
	623.0	1.85	0	0	0	95.0	2.210
	573.0	1.86	0	0	0	95.0	2.210
	523.0	1.87	0	0	0	95.0	2.210
	473.0	1.87	0	0	0	95.0	2.210
	423.0	1.79	0	0	0	95.0	2.210
	373.0	1.73	0	0	0	95.0	2.210
	323.0	1.74	0	0	0	95.0	2.210
	298.0	2.20	0	0	0	95.0	2.210
Staicu and Barker (2013)							
	501.7	5.42	0	0	9.0	95.3	2.000
	551.7	5.03	0	0	9.0	95.3	2.000
	601.7	4.70	0	0	9.0	95.3	2.000
	650.0	4.42	0	0	9.0	95.3	2.000
	701.7	4.16	0	0	9.0	95.3	2.000
	751.7	3.92	0	0	9.0	95.3	2.000
	801.7	3.72	0	0	9.0	95.3	2.000
	851.7	3.53	0	0	9.0	95.3	2.000
	900.0	3.36	0	0	9.0	95.3	2.000
	950.0	3.21	0	0	9.0	95.3	2.000
	1000.0	3.07	0	0	9.0	95.3	2.000
	1050.0	2.94	0	0	9.0	95.3	2.000
	1100.0	2.82	0	0	9.0	95.3	2.000
	1150.0	2.72	0	0	9.0	95.3	2.000
	1201.7	2.61	0	0	9.0	95.3	2.000
	1251.7	2.52	0	0	9.0	95.3	2.000
	1301.7	2.43	0	0	9.0	95.3	2.000
	1350.0	2.35	0	0	9.0	95.3	2.000
	1400.0	2.27	0	0	9.0	95.3	2.000
	1451.7	2.21	0	0	9.0	95.3	2.000
	1500.0	2.14	0	0	9.0	95.3	2.000
	1550.0	2.08	0	0	9.0	95.3	2.000
	1600.0	2.01	0	0	9.0	95.3	2.000
	501.7	5.50	0	0	7.0	94.5	2.000
	550.0	5.14	0	0	7.0	94.5	2.000
	600.0	4.81	0	0	7.0	94.5	2.000
	650.0	4.52	0	0	7.0	94.5	2.000
	701.7	4.27	0	0	7.0	94.5	2.000
	751.7	4.05	0	0	7.0	94.5	2.000
	800.0	3.85	0	0	7.0	94.5	2.000
	851.7	3.66	0	0	7.0	94.5	2.000
	901.7	3.49	0	0	7.0	94.5	2.000
	951.7	3.34	0	0	7.0	94.5	2.000
	1000.0	3.20	0	0	7.0	94.5	2.000
	1050.0	3.08	0	0	7.0	94.5	2.000
	1101.7	2.95	0	0	7.0	94.5	2.000
	1151.7	2.84	0	0	7.0	94.5	2.000
	1200.0	2.74	0	0	7.0	94.5	2.000
	1250.0	2.65	0	0	7.0	94.5	2.000
	1300.0	2.56	0	0	7.0	94.5	2.000
	1351.7	2.47	0	0	7.0	94.5	2.000
	1400.0	2.40	0	0	7.0	94.5	2.000
	1450.0	2.33	0	0	7.0	94.5	2.000
	1498.3	2.25	0	0	7.0	94.5	2.000
	1551.7	2.19	0	0	7.0	94.5	2.000
	1600.0	2.14	0	0	7.0	94.5	2.000
	501.7	5.92	0	0	9.0	95.3	2.000
	553.3	5.47	0	0	9.0	95.3	2.000
	603.3	5.08	0	0	9.0	95.3	2.000
	651.7	4.75	0	0	9.0	95.3	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	701.7	4.47	0	0	9.0	95.3	2.000
	751.7	4.20	0	0	9.0	95.3	2.000
	801.7	3.97	0	0	9.0	95.3	2.000
	851.7	3.76	0	0	9.0	95.3	2.000
	901.7	3.58	0	0	9.0	95.3	2.000
	951.7	3.42	0	0	9.0	95.3	2.000
	1001.7	3.25	0	0	9.0	95.3	2.000
	1050.0	3.12	0	0	9.0	95.3	2.000
	1101.7	2.99	0	0	9.0	95.3	2.000
	1151.7	2.88	0	0	9.0	95.3	2.000
	1201.7	2.76	0	0	9.0	95.3	2.000
	1250.0	2.67	0	0	9.0	95.3	2.000
	1303.3	2.58	0	0	9.0	95.3	2.000
	1351.7	2.48	0	0	9.0	95.3	2.000
	1400.0	2.40	0	0	9.0	95.3	2.000
	1451.7	2.33	0	0	9.0	95.3	2.000
	1500.0	2.25	0	0	9.0	95.3	2.000
	1551.7	2.19	0	0	9.0	95.3	2.000
	1600.0	2.12	0	0	9.0	95.3	2.000
	551.7	5.67	0	0	5.6	95.8	2.000
	601.7	5.26	0	0	5.6	95.8	2.000
	651.7	4.92	0	0	5.6	95.8	2.000
	701.7	4.61	0	0	5.6	95.8	2.000
	750.0	4.33	0	0	5.6	95.8	2.000
	800.0	4.10	0	0	5.6	95.8	2.000
	850.0	3.88	0	0	5.6	95.8	2.000
	901.7	3.69	0	0	5.6	95.8	2.000
	951.7	3.51	0	0	5.6	95.8	2.000
	1000.0	3.36	0	0	5.6	95.8	2.000
	1050.0	3.21	0	0	5.6	95.8	2.000
	1101.7	3.08	0	0	5.6	95.8	2.000
	1151.7	2.95	0	0	5.6	95.8	2.000
	1201.7	2.84	0	0	5.6	95.8	2.000
	1250.0	2.73	0	0	5.6	95.8	2.000
	1300.0	2.64	0	0	5.6	95.8	2.000
	1350.0	2.53	0	0	5.6	95.8	2.000
	1401.7	2.46	0	0	5.6	95.8	2.000
	1450.0	2.38	0	0	5.6	95.8	2.000
	1500.0	2.31	0	0	5.6	95.8	2.000
	1550.0	2.23	0	0	5.6	95.8	2.000
	1601.7	2.18	0	0	5.6	95.8	2.000
	550.0	5.75	0	0	4.8	95.6	2.000
	601.7	5.35	0	0	4.8	95.6	2.000
	651.7	5.00	0	0	4.8	95.6	2.000
	701.7	4.67	0	0	4.8	95.6	2.000
	751.7	4.42	0	0	4.8	95.6	2.000
	801.7	4.18	0	0	4.8	95.6	2.000
	851.7	3.97	0	0	4.8	95.6	2.000
	901.7	3.74	0	0	4.8	95.6	2.000
	953.3	3.56	0	0	4.8	95.6	2.000
	1001.7	3.40	0	0	4.8	95.6	2.000
	1051.7	3.25	0	0	4.8	95.6	2.000
	1101.7	3.12	0	0	4.8	95.6	2.000
	1150.0	3.01	0	0	4.8	95.6	2.000
	1201.7	2.89	0	0	4.8	95.6	2.000
	1251.7	2.79	0	0	4.8	95.6	2.000
	1301.7	2.67	0	0	4.8	95.6	2.000
	1350.0	2.58	0	0	4.8	95.6	2.000
	1400.0	2.51	0	0	4.8	95.6	2.000
	1450.0	2.43	0	0	4.8	95.6	2.000
	1500.0	2.36	0	0	4.8	95.6	2.000
	1550.0	2.27	0	0	4.8	95.6	2.000
	1601.7	2.20	0	0	4.8	95.6	2.000
	551.7	5.75	0	0	11.1	96.1	2.000
	603.3	5.35	0	0	11.1	96.1	2.000
	651.7	5.00	0	0	11.1	96.1	2.000
	701.7	4.70	0	0	11.1	96.1	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	750.0	4.42	0	0	11.1	96.1	2.000
	800.0	4.19	0	0	11.1	96.1	2.000
	850.0	3.97	0	0	11.1	96.1	2.000
	901.7	3.77	0	0	11.1	96.1	2.000
	950.0	3.60	0	0	11.1	96.1	2.000
	1001.7	3.45	0	0	11.1	96.1	2.000
	1051.7	3.28	0	0	11.1	96.1	2.000
	1103.3	3.16	0	0	11.1	96.1	2.000
	1150.0	3.04	0	0	11.1	96.1	2.000
	1201.7	2.92	0	0	11.1	96.1	2.000
	1250.0	2.81	0	0	11.1	96.1	2.000
	1301.7	2.71	0	0	11.1	96.1	2.000
	1350.0	2.62	0	0	11.1	96.1	2.000
	1400.0	2.53	0	0	11.1	96.1	2.000
	1450.0	2.45	0	0	11.1	96.1	2.000
	1498.3	2.37	0	0	11.1	96.1	2.000
	1550.0	2.31	0	0	11.1	96.1	2.000
	1600.0	2.25	0	0	11.1	96.1	2.000
Mansur et al. (2015)							
	300.0	7.74	0	6	0	99.2	2.000
	300.0	7.07	0	6	0	99.3	2.000
	300.0	8.38	0	0	0	90.3	2.000
	300.0	5.57	0	6	0	88.0	2.000
	300.0	5.86	0	2	0	87.6	2.000
	300.0	7.32	0	4	0	97.5	2.000
	300.0	6.73	0	6	0	95.5	2.000
	300.0	5.80	0	10	0	96.8	2.000
	300.0	6.17	0	6	0	97.8	2.000
Kavazauri et al. (2016)							
	338.3	8.67	0	0	0	95.0	2.002
	363.4	8.13	0	0	0	95.0	2.002
	401.0	7.68	0	0	0	95.0	2.002
	436.9	7.29	0	0	0	95.0	2.002
	487.1	6.66	0	0	0	95.0	2.002
	547.7	6.11	0	0	0	95.0	2.002
	620.8	5.51	0	0	0	95.0	2.002
	687.6	5.22	0	0	0	95.0	2.002
	773.3	4.62	0	0	0	95.0	2.002
	798.4	4.68	0	0	0	95.0	2.002
	846.4	4.40	0	0	0	95.0	2.002
	890.3	4.08	0	0	0	95.0	2.002
	942.5	3.95	0	0	0	95.0	2.002
	1013.5	3.73	0	0	0	95.0	2.002
	1105.5	3.55	0	0	0	95.0	2.002
	1182.8	3.35	0	0	0	95.0	2.002
	1253.8	3.18	0	0	0	95.0	2.002
	1370.8	2.97	0	0	0	95.0	2.002
	1446.0	2.81	0	0	0	95.0	2.002
	1554.6	2.69	0	0	0	95.0	2.002
	1654.9	2.60	0	0	0	95.0	2.002
	1757.3	2.35	0	0	0	95.0	2.002
	1876.4	2.32	0	0	0	95.0	2.002
	1966.2	2.23	0	0	0	95.0	2.002
	357.6	6.64	0	0	0	95.0	2.005
	380.5	6.64	0	0	0	95.0	2.005
	372.2	6.48	0	0	0	95.0	2.005
	447.4	5.82	0	0	0	95.0	2.005
	518.4	5.46	0	0	0	95.0	2.005
	547.7	5.37	0	0	0	95.0	2.005
	595.7	4.87	0	0	0	95.0	2.005
	666.7	4.72	0	0	0	95.0	2.005
	685.5	4.62	0	0	0	95.0	2.005
	719.0	4.34	0	0	0	95.0	2.005
	760.8	4.30	0	0	0	95.0	2.005
	827.6	4.06	0	0	0	95.0	2.005
	856.9	3.85	0	0	0	95.0	2.005

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	894.5	3.83	0	0	0	95.0	2.005
	1017.7	3.39	0	0	0	95.0	2.005
	980.1	3.57	0	0	0	95.0	2.005
	1141.0	3.16	0	0	0	95.0	2.005
	1170.2	3.02	0	0	0	95.0	2.005
	1207.8	3.03	0	0	0	95.0	2.005
	1347.8	2.78	0	0	0	95.0	2.005
	1406.3	2.69	0	0	0	95.0	2.005
	1510.8	2.61	0	0	0	95.0	2.005
	1671.6	2.40	0	0	0	95.0	2.005
	1592.2	2.53	0	0	0	95.0	2.005
	1824.1	2.29	0	0	0	95.0	2.005
	357.6	5.60	0	0	0	95.0	2.015
	399.3	5.03	0	0	0	95.0	2.015
	445.3	4.97	0	0	0	95.0	2.015
	487.1	4.52	0	0	0	95.0	2.015
	545.6	4.52	0	0	0	95.0	2.015
	558.1	4.26	0	0	0	95.0	2.015
	587.4	4.08	0	0	0	95.0	2.015
	645.9	3.96	0	0	0	95.0	2.015
	696.0	3.90	0	0	0	95.0	2.015
	727.3	3.80	0	0	0	95.0	2.015
	796.3	3.50	0	0	0	95.0	2.015
	838.1	3.43	0	0	0	95.0	2.015
	867.3	3.18	0	0	0	95.0	2.015
	917.4	3.16	0	0	0	95.0	2.015
	946.7	3.18	0	0	0	95.0	2.015
	1061.6	2.88	0	0	0	95.0	2.015
	1113.8	2.75	0	0	0	95.0	2.015
	1216.2	2.65	0	0	0	95.0	2.015
	1333.2	2.53	0	0	0	95.0	2.015
	1389.6	2.43	0	0	0	95.0	2.015
	1529.6	2.36	0	0	0	95.0	2.015
	1703.0	2.25	0	0	0	95.0	2.015
	361.7	5.00	0	0	0	95.0	2.033
	372.2	4.70	0	0	0	95.0	2.033
	393.1	4.58	0	0	0	95.0	2.033
	420.2	4.70	0	0	0	95.0	2.033
	422.3	4.45	0	0	0	95.0	2.033
	464.1	4.23	0	0	0	95.0	2.033
	487.1	4.17	0	0	0	95.0	2.033
	568.6	4.05	0	0	0	95.0	2.033
	570.6	3.84	0	0	0	95.0	2.033
	593.6	3.76	0	0	0	95.0	2.033
	647.9	3.60	0	0	0	95.0	2.033
	670.9	3.53	0	0	0	95.0	2.033
	756.6	3.27	0	0	0	95.0	2.033
	779.6	3.18	0	0	0	95.0	2.033
	888.2	3.07	0	0	0	95.0	2.033
	984.3	2.81	0	0	0	95.0	2.033
	1072.0	2.69	0	0	0	95.0	2.033
	1191.1	2.57	0	0	0	95.0	2.033
	1224.5	2.49	0	0	0	95.0	2.033
	1308.1	2.40	0	0	0	95.0	2.033
	1414.7	2.37	0	0	0	95.0	2.033
	1441.8	2.36	0	0	0	95.0	2.033
	1565.1	2.30	0	0	0	95.0	2.033
	1640.3	2.22	0	0	0	95.0	2.033
	1769.8	2.18	0	0	0	95.0	2.033
Pavlov et al. (2016)							
	1506.9	2.14	0	0	0	96.0	2.000
	1504.5	2.23	0	0	0	96.0	2.000
	1592.4	2.04	0	0	0	96.0	2.000
	1658.9	2.03	0	0	0	96.0	2.000
	1654.2	2.11	0	0	0	96.0	2.000
	1777.7	2.06	0	0	0	96.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1789.5	2.12	0	0	0	96.0	2.000
	2043.7	1.85	0	0	0	96.0	2.000
	2069.8	1.99	0	0	0	96.0	2.000
	2100.7	2.09	0	0	0	96.0	2.000
	2143.5	1.95	0	0	0	96.0	2.000
	2165.7	2.22	0	0	0	96.0	2.000
	2187.1	2.11	0	0	0	96.0	2.000
	2195.4	2.13	0	0	0	96.0	2.000
	2221.8	2.16	0	0	0	96.0	2.000
	2297.7	2.10	0	0	0	96.0	2.000
Camarano et al. (2016)							
	298.1	7.13	0	0	0	92.9	2.000
	373.1	6.87	0	0	0	92.9	2.000
	298.1	7.26	0	0	0	93.2	2.000
	373.1	6.85	0	0	0	93.2	2.000
Pavlov et al. (2017)							
	2502.4	2.21	0	0	0	95.0	2.000
	2501.2	2.33	0	0	0	95.0	2.000
	2520.6	2.24	0	0	0	95.0	2.000
	2529.4	2.12	0	0	0	95.0	2.000
	2552.3	2.11	0	0	0	95.0	2.000
	2551.7	2.19	0	0	0	95.0	2.000
	2575.8	2.45	0	0	0	95.0	2.000
	2591.7	2.12	0	0	0	95.0	2.000
	2596.4	2.20	0	0	0	95.0	2.000
	2616.3	2.15	0	0	0	95.0	2.000
	2616.3	2.39	0	0	0	95.0	2.000
	2616.3	2.46	0	0	0	95.0	2.000
	2618.7	1.85	0	0	0	95.0	2.000
	2638.7	1.96	0	0	0	95.0	2.000
	2642.8	2.09	0	0	0	95.0	2.000
	2643.4	2.16	0	0	0	95.0	2.000
	2646.3	1.85	0	0	0	95.0	2.000
	2652.2	1.76	0	0	0	95.0	2.000
	2672.2	1.83	0	0	0	95.0	2.000
	2680.4	1.90	0	0	0	95.0	2.000
	2684.5	1.76	0	0	0	95.0	2.000
	2662.7	2.01	0	0	0	95.0	2.000
	2662.7	2.18	0	0	0	95.0	2.000
	2681.0	2.29	0	0	0	95.0	2.000
	2664.5	2.48	0	0	0	95.0	2.000
	2653.9	2.60	0	0	0	95.0	2.000
	2688.6	2.06	0	0	0	95.0	2.000
	2713.9	2.01	0	0	0	95.0	2.000
	2699.2	2.16	0	0	0	95.0	2.000
	2703.3	2.31	0	0	0	95.0	2.000
	2715.6	2.14	0	0	0	95.0	2.000
	2728.6	2.15	0	0	0	95.0	2.000
	2728.6	2.18	0	0	0	95.0	2.000
	2731.5	2.20	0	0	0	95.0	2.000
	2740.3	2.23	0	0	0	95.0	2.000
	2721.5	2.30	0	0	0	95.0	2.000
	2765.0	2.18	0	0	0	95.0	2.000
	2766.7	2.11	0	0	0	95.0	2.000
	2770.9	2.04	0	0	0	95.0	2.000
	2776.1	2.15	0	0	0	95.0	2.000
	2793.8	2.24	0	0	0	95.0	2.000
	2807.3	2.13	0	0	0	95.0	2.000
	2787.3	2.42	0	0	0	95.0	2.000
	2772.0	2.71	0	0	0	95.0	2.000
	2830.2	2.47	0	0	0	95.0	2.000
	2844.9	2.52	0	0	0	95.0	2.000
	2859.6	2.50	0	0	0	95.0	2.000
	2844.3	2.36	0	0	0	95.0	2.000
	2845.5	2.23	0	0	0	95.0	2.000
	2853.1	2.24	0	0	0	95.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	2902.5	2.35	0	0	0	95.0	2.000
	2909.5	2.45	0	0	0	95.0	2.000
	2884.3	2.66	0	0	0	95.0	2.000
	2904.8	2.81	0	0	0	95.0	2.000
	2956.5	3.04	0	0	0	95.0	2.000
	2953.6	3.40	0	0	0	95.0	2.000
Camarano et al. (2017)†							
	300.0	7.28	0	0	0	93.8	2.000
	300.0	7.21	0	0	0	93.8	2.000
	300.0	7.37	0	0	0	94.0	2.000
	300.0	7.42	0	0	0	94.0	2.000
	300.0	7.42	0	0	0	94.6	2.000
	300.0	7.64	0	0	0	94.6	2.000
Morimoto and Ogasawara (2017)							
	654.5	6.00	0	0	0	92.0	2.000
	752.6	5.43	0	0	0	92.0	2.000
	850.6	4.94	0	0	0	92.0	2.000
	953.4	4.41	0	0	0	92.0	2.000
	1046.6	4.14	0	0	0	92.0	2.000
	1144.7	3.68	0	0	0	92.0	2.000
	1242.7	3.46	0	0	0	92.0	2.000
	1342.3	3.19	0	0	0	92.0	2.000
	1437.2	3.06	0	0	0	92.0	2.000
	1538.3	2.88	0	0	0	92.0	2.000
	653.0	5.47	0	0	0	90.6	2.000
	757.3	5.25	0	0	0	90.6	2.000
	847.4	4.54	0	0	0	90.6	2.000
	948.6	4.09	0	0	0	90.6	2.000
	1046.6	3.73	0	0	0	90.6	2.000
	1144.7	3.36	0	0	0	90.6	2.000
	1242.7	3.15	0	0	0	90.6	2.000
	1340.7	2.83	0	0	0	90.6	2.000
	1438.7	2.72	0	0	0	90.6	2.000
	1536.8	2.64	0	0	0	90.6	2.000
	651.4	4.34	0	0	0	81.9	2.000
	752.6	4.09	0	0	0	81.9	2.000
	849.0	3.55	0	0	0	81.9	2.000
	950.2	3.14	0	0	0	81.9	2.000
	1045.1	2.83	0	0	0	81.9	2.000
	1143.1	2.61	0	0	0	81.9	2.000
	1242.7	2.45	0	0	0	81.9	2.000
	1340.7	2.19	0	0	0	81.9	2.000
	1438.7	2.18	0	0	0	81.9	2.000
	1536.8	2.01	0	0	0	81.9	2.000
	654.5	4.60	0	0	0	87.7	2.000
	752.6	4.46	0	0	0	87.7	2.000
	852.2	3.73	0	0	0	87.7	2.000
	948.6	3.44	0	0	0	87.7	2.000
	1045.1	3.19	0	0	0	87.7	2.000
	1146.2	2.87	0	0	0	87.7	2.000
	1242.7	2.67	0	0	0	87.7	2.000
	1340.7	2.58	0	0	0	87.7	2.000
	1437.2	2.34	0	0	0	87.7	2.000
	1536.8	2.11	0	0	0	87.7	2.000
	653.0	4.97	0	0	0	90.8	2.000
	752.6	4.89	0	0	0	90.8	2.000
	850.6	4.05	0	0	0	90.8	2.000
	948.6	3.62	0	0	0	90.8	2.000
	1045.1	3.34	0	0	0	90.8	2.000
	1141.5	3.04	0	0	0	90.8	2.000
	1241.1	2.95	0	0	0	90.8	2.000
	1340.7	2.62	0	0	0	90.8	2.000
	1440.3	2.44	0	0	0	90.8	2.000
	1538.3	2.32	0	0	0	90.8	2.000
	651.4	3.61	0	0	0	86.3	2.000
	752.6	4.15	0	0	0	86.3	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	856.9	2.99	0	0	0	86.3	2.000
	948.6	3.19	0	0	0	86.3	2.000
	1045.1	2.54	0	0	0	86.3	2.000
	1143.1	2.77	0	0	0	86.3	2.000
	1242.7	2.30	0	0	0	86.3	2.000
	1339.1	2.35	0	0	0	86.3	2.000
	1437.2	1.98	0	0	0	86.3	2.000
	1536.8	2.19	0	0	0	86.3	2.000
	657.7	4.42	0	0	0	80.4	2.000
	751.0	3.85	0	0	0	80.4	2.000
	849.0	3.41	0	0	0	80.4	2.000
	948.6	2.95	0	0	0	80.4	2.000
	1046.6	2.79	0	0	0	80.4	2.000
	1146.2	2.44	0	0	0	80.4	2.000
	1241.1	2.30	0	0	0	80.4	2.000
	1342.3	2.23	0	0	0	80.4	2.000
	1438.7	2.00	0	0	0	80.4	2.000
	1538.3	1.97	0	0	0	80.4	2.000
	653.0	4.04	0	0	0	84.1	2.000
	752.6	3.87	0	0	0	84.1	2.000
	847.4	3.34	0	0	0	84.1	2.000
	948.6	2.95	0	0	0	84.1	2.000
	1045.1	2.77	0	0	0	84.1	2.000
	1144.7	2.46	0	0	0	84.1	2.000
	1237.9	2.28	0	0	0	84.1	2.000
	1339.1	2.14	0	0	0	84.1	2.000
	1440.3	2.00	0	0	0	84.1	2.000
	1536.8	1.81	0	0	0	84.1	2.000
Mansur et al. (2017)							
	298.1	7.01	0	0	0	93.7	2.000
	298.1	6.85	0	0	0	93.7	2.000
	373.1	6.56	0	0	0	93.7	2.000
	373.1	6.64	0	0	0	93.7	2.000
	473.1	5.62	0	0	0	93.7	2.000
	473.1	5.49	0	0	0	93.7	2.000
	573.1	4.90	0	0	0	93.7	2.000
	573.1	4.92	0	0	0	93.7	2.000
	673.1	4.33	0	0	0	93.7	2.000
	673.1	4.37	0	0	0	93.7	2.000
	773.1	3.81	0	0	0	93.7	2.000
	773.1	3.72	0	0	0	93.7	2.000
Skakov et al. (2017)							
	304.7	7.38	0	0	0	95.0	2.000
	376.6	7.37	0	0	0	95.0	2.000
	424.2	7.20	0	0	0	95.0	2.000
	471.9	6.89	0	0	0	95.0	2.000
	524.5	6.53	0	0	0	95.0	2.000
	568.5	6.39	0	0	0	95.0	2.000
	621.8	6.26	0	0	0	95.0	2.000
	678.1	6.00	0	0	0	95.0	2.000
Saoudi et al. (2018)							
	531.0	5.34	0	0	0	95.0	2.000
	610.0	4.81	0	0	0	95.0	2.000
	614.0	4.79	0	0	0	95.0	2.000
	736.0	4.21	0	0	0	95.0	2.000
	880.0	3.81	0	0	0	95.0	2.000
	1023.0	3.34	0	0	0	95.0	2.000
	1036.0	3.37	0	0	0	95.0	2.000
	1075.0	3.28	0	0	0	95.0	2.000
	1187.0	2.76	0	0	0	95.0	2.000
	1353.0	2.44	0	0	0	95.0	2.000
	1527.0	2.13	0	0	0	95.0	2.000
	1611.0	2.02	0	0	0	95.0	2.000
Vlahovic et al. (2018)							
	499.0	5.69	0	0	0	95.0	2.000
	505.0	5.82	0	0	0	95.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	506.0	5.71	0	0	0	95.0	2.000
	508.0	5.68	0	0	0	95.0	2.000
	509.0	5.77	0	0	0	95.0	2.000
	511.0	5.59	0	0	0	95.0	2.000
	512.0	5.61	0	0	0	95.0	2.000
	513.0	5.68	0	0	0	95.0	2.000
	514.0	5.57	0	0	0	95.0	2.000
	515.0	5.67	0	0	0	95.0	2.000
	516.0	5.64	0	0	0	95.0	2.000
	517.0	5.72	0	0	0	95.0	2.000
	518.0	5.76	0	0	0	95.0	2.000
	519.0	5.67	0	0	0	95.0	2.000
	520.0	5.60	0	0	0	95.0	2.000
	521.0	5.67	0	0	0	95.0	2.000
	522.0	5.67	0	0	0	95.0	2.000
	523.0	5.53	0	0	0	95.0	2.000
	524.0	5.62	0	0	0	95.0	2.000
	525.0	5.68	0	0	0	95.0	2.000
	528.0	5.54	0	0	0	95.0	2.000
	529.0	5.44	0	0	0	95.0	2.000
	533.0	5.49	0	0	0	95.0	2.000
	534.0	5.51	0	0	0	95.0	2.000
	535.0	5.44	0	0	0	95.0	2.000
	536.0	5.28	0	0	0	95.0	2.000
	538.0	5.35	0	0	0	95.0	2.000
	541.0	5.32	0	0	0	95.0	2.000
	542.0	5.33	0	0	0	95.0	2.000
	544.0	5.33	0	0	0	95.0	2.000
	545.0	5.27	0	0	0	95.0	2.000
	546.0	5.36	0	0	0	95.0	2.000
	550.0	5.37	0	0	0	95.0	2.000
	560.0	5.24	0	0	0	95.0	2.000
	561.0	5.36	0	0	0	95.0	2.000
	563.0	5.33	0	0	0	95.0	2.000
	565.0	5.25	0	0	0	95.0	2.000
	567.0	5.22	0	0	0	95.0	2.000
	570.0	5.11	0	0	0	95.0	2.000
	572.0	5.18	0	0	0	95.0	2.000
	575.0	5.12	0	0	0	95.0	2.000
	875.0	3.82	0	0	0	95.0	2.000
	881.0	3.88	0	0	0	95.0	2.000
	890.0	3.74	0	0	0	95.0	2.000
	891.0	3.82	0	0	0	95.0	2.000
	892.0	3.78	0	0	0	95.0	2.000
	893.0	3.71	0	0	0	95.0	2.000
	920.0	3.75	0	0	0	95.0	2.000
	921.0	3.70	0	0	0	95.0	2.000
	933.0	3.64	0	0	0	95.0	2.000
	934.0	3.65	0	0	0	95.0	2.000
	944.0	3.69	0	0	0	95.0	2.000
	946.0	3.65	0	0	0	95.0	2.000
	947.0	3.63	0	0	0	95.0	2.000
	951.0	3.62	0	0	0	95.0	2.000
	952.0	3.56	0	0	0	95.0	2.000
	953.0	3.55	0	0	0	95.0	2.000
	955.0	3.59	0	0	0	95.0	2.000
	956.0	3.53	0	0	0	95.0	2.000
	961.0	3.50	0	0	0	95.0	2.000
	963.0	3.50	0	0	0	95.0	2.000
	966.0	3.56	0	0	0	95.0	2.000
	967.0	3.46	0	0	0	95.0	2.000
	968.0	3.55	0	0	0	95.0	2.000
	969.0	3.52	0	0	0	95.0	2.000
	970.0	3.59	0	0	0	95.0	2.000
	971.0	3.57	0	0	0	95.0	2.000
	972.0	3.47	0	0	0	95.0	2.000
	974.0	3.54	0	0	0	95.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	975.0	3.49	0	0	0	95.0	2.000
	976.0	3.50	0	0	0	95.0	2.000
	977.0	3.45	0	0	0	95.0	2.000
	978.0	3.49	0	0	0	95.0	2.000
	979.0	3.50	0	0	0	95.0	2.000
	980.0	3.43	0	0	0	95.0	2.000
	981.0	3.47	0	0	0	95.0	2.000
	982.0	3.48	0	0	0	95.0	2.000
	983.0	3.54	0	0	0	95.0	2.000
	984.0	3.39	0	0	0	95.0	2.000
	985.0	3.46	0	0	0	95.0	2.000
	986.0	3.49	0	0	0	95.0	2.000
	987.0	3.50	0	0	0	95.0	2.000
	988.0	3.54	0	0	0	95.0	2.000
	989.0	3.48	0	0	0	95.0	2.000
	990.0	3.51	0	0	0	95.0	2.000
	991.0	3.42	0	0	0	95.0	2.000
	1255.0	2.85	0	0	0	95.0	2.000
	1261.0	2.80	0	0	0	95.0	2.000
	1271.0	2.81	0	0	0	95.0	2.000
	1272.0	2.79	0	0	0	95.0	2.000
	1273.0	2.77	0	0	0	95.0	2.000
	1280.0	2.78	0	0	0	95.0	2.000
	1284.0	2.74	0	0	0	95.0	2.000
	1285.0	2.69	0	0	0	95.0	2.000
	1333.0	2.70	0	0	0	95.0	2.000
	1335.0	2.69	0	0	0	95.0	2.000
	1337.0	2.73	0	0	0	95.0	2.000
	1338.0	2.66	0	0	0	95.0	2.000
	1340.0	2.65	0	0	0	95.0	2.000
	1341.0	2.63	0	0	0	95.0	2.000
	1342.0	2.65	0	0	0	95.0	2.000
	1343.0	2.61	0	0	0	95.0	2.000
	1345.0	2.65	0	0	0	95.0	2.000
	1379.0	2.63	0	0	0	95.0	2.000
	1380.0	2.64	0	0	0	95.0	2.000
	1398.0	2.68	0	0	0	95.0	2.000
	1404.0	2.51	0	0	0	95.0	2.000
	1405.0	2.56	0	0	0	95.0	2.000
	1408.0	2.57	0	0	0	95.0	2.000
	1437.0	2.45	0	0	0	95.0	2.000
	1439.0	2.49	0	0	0	95.0	2.000
	1440.0	2.50	0	0	0	95.0	2.000
	1452.0	2.49	0	0	0	95.0	2.000
	1457.0	2.48	0	0	0	95.0	2.000
	1458.0	2.50	0	0	0	95.0	2.000
	1461.0	2.45	0	0	0	95.0	2.000
	1462.0	2.46	0	0	0	95.0	2.000
	1463.0	2.48	0	0	0	95.0	2.000
	1476.0	2.51	0	0	0	95.0	2.000
	1479.0	2.41	0	0	0	95.0	2.000
	1481.0	2.44	0	0	0	95.0	2.000
	1483.0	2.51	0	0	0	95.0	2.000
	1484.0	2.36	0	0	0	95.0	2.000
	1485.0	2.41	0	0	0	95.0	2.000
	1494.0	2.45	0	0	0	95.0	2.000
	1523.0	2.38	0	0	0	95.0	2.000
	1524.0	2.37	0	0	0	95.0	2.000
	1556.0	2.32	0	0	0	95.0	2.000
	1564.0	2.36	0	0	0	95.0	2.000
	585.0	5.08	0	0	0	95.0	2.000
	606.0	4.96	0	0	0	95.0	2.000
	632.0	4.82	0	0	0	95.0	2.000
	634.0	4.89	0	0	0	95.0	2.000
	639.0	4.86	0	0	0	95.0	2.000
	656.0	4.69	0	0	0	95.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	670.0	4.74	0	0	0	95.0	2.000
	673.0	4.72	0	0	0	95.0	2.000
	675.0	4.75	0	0	0	95.0	2.000
	676.0	4.67	0	0	0	95.0	2.000
	677.0	4.66	0	0	0	95.0	2.000
	678.0	4.72	0	0	0	95.0	2.000
	732.0	4.28	0	0	0	95.0	2.000
	733.0	4.26	0	0	0	95.0	2.000
	734.0	4.34	0	0	0	95.0	2.000
	738.0	4.36	0	0	0	95.0	2.000
	741.0	4.27	0	0	0	95.0	2.000
	743.0	4.36	0	0	0	95.0	2.000
	744.0	4.28	0	0	0	95.0	2.000
	745.0	4.32	0	0	0	95.0	2.000
	747.0	4.24	0	0	0	95.0	2.000
	748.0	4.36	0	0	0	95.0	2.000
	749.0	4.29	0	0	0	95.0	2.000
	750.0	4.33	0	0	0	95.0	2.000
	751.0	4.21	0	0	0	95.0	2.000
	756.0	4.25	0	0	0	95.0	2.000
	763.0	4.23	0	0	0	95.0	2.000
	768.0	4.16	0	0	0	95.0	2.000
	772.0	4.17	0	0	0	95.0	2.000
	774.0	4.14	0	0	0	95.0	2.000
	775.0	4.14	0	0	0	95.0	2.000
	780.0	4.26	0	0	0	95.0	2.000
	781.0	4.20	0	0	0	95.0	2.000
	793.0	4.09	0	0	0	95.0	2.000
	809.0	4.10	0	0	0	95.0	2.000
	810.0	4.07	0	0	0	95.0	2.000
	865.0	3.82	0	0	0	95.0	2.000
	866.0	3.86	0	0	0	95.0	2.000
	869.0	3.80	0	0	0	95.0	2.000
	870.0	3.78	0	0	0	95.0	2.000
	872.0	3.84	0	0	0	95.0	2.000
	992.0	3.39	0	0	0	95.0	2.000
	994.0	3.42	0	0	0	95.0	2.000
	995.0	3.43	0	0	0	95.0	2.000
	996.0	3.48	0	0	0	95.0	2.000
	997.0	3.38	0	0	0	95.0	2.000
	999.0	3.39	0	0	0	95.0	2.000
	1004.0	3.49	0	0	0	95.0	2.000
	1006.0	3.38	0	0	0	95.0	2.000
	1009.0	3.48	0	0	0	95.0	2.000
	1012.0	3.40	0	0	0	95.0	2.000
	1039.0	3.24	0	0	0	95.0	2.000
	1043.0	3.22	0	0	0	95.0	2.000
	1044.0	3.25	0	0	0	95.0	2.000
	1058.0	3.27	0	0	0	95.0	2.000
	1063.0	3.25	0	0	0	95.0	2.000
	1064.0	3.19	0	0	0	95.0	2.000
	1068.0	3.23	0	0	0	95.0	2.000
	1069.0	3.25	0	0	0	95.0	2.000
	1083.0	3.26	0	0	0	95.0	2.000
	1084.0	3.25	0	0	0	95.0	2.000
	1105.0	3.18	0	0	0	95.0	2.000
	1113.0	3.13	0	0	0	95.0	2.000
	1117.0	3.21	0	0	0	95.0	2.000
	1124.0	3.08	0	0	0	95.0	2.000
	1125.0	3.08	0	0	0	95.0	2.000
	1128.0	3.05	0	0	0	95.0	2.000
	1134.0	3.04	0	0	0	95.0	2.000
	1142.0	3.06	0	0	0	95.0	2.000
	1159.0	2.98	0	0	0	95.0	2.000
	1160.0	2.97	0	0	0	95.0	2.000
	1185.0	3.01	0	0	0	95.0	2.000
	1187.0	3.03	0	0	0	95.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	1188.0	2.99	0	0	0	95.0	2.000
	1189.0	2.95	0	0	0	95.0	2.000
	1190.0	2.94	0	0	0	95.0	2.000
	1191.0	2.91	0	0	0	95.0	2.000
	1192.0	2.96	0	0	0	95.0	2.000
	1194.0	2.94	0	0	0	95.0	2.000
	1196.0	2.90	0	0	0	95.0	2.000
	1199.0	2.90	0	0	0	95.0	2.000
	1207.0	2.90	0	0	0	95.0	2.000
	1212.0	2.90	0	0	0	95.0	2.000
	1220.0	2.88	0	0	0	95.0	2.000
	1231.0	2.87	0	0	0	95.0	2.000
	1249.0	2.90	0	0	0	95.0	2.000
	1568.0	2.33	0	0	0	95.0	2.000
	1569.0	2.28	0	0	0	95.0	2.000
	1584.0	2.35	0	0	0	95.0	2.000
	1595.0	2.26	0	0	0	95.0	2.000
	1596.0	2.29	0	0	0	95.0	2.000
	1621.0	2.22	0	0	0	95.0	2.000
	1622.0	2.26	0	0	0	95.0	2.000
	1862.0	2.36	0	0	0	95.0	2.000
	1915.0	1.91	0	0	0	95.0	2.000
	1951.0	1.69	0	0	0	95.0	2.000
	1975.0	1.98	0	0	0	95.0	2.000
	2039.0	2.06	0	0	0	95.0	2.000
	2052.0	1.96	0	0	0	95.0	2.000
	2150.0	1.89	0	0	0	95.0	2.000
	2150.0	1.97	0	0	0	95.0	2.000
	2189.0	1.96	0	0	0	95.0	2.000
	2189.0	2.19	0	0	0	95.0	2.000
	2189.0	2.00	0	0	0	95.0	2.000
	2190.0	1.92	0	0	0	95.0	2.000
	2191.0	1.93	0	0	0	95.0	2.000
	2192.0	1.81	0	0	0	95.0	2.000
	2212.0	1.91	0	0	0	95.0	2.000
	2213.0	1.59	0	0	0	95.0	2.000
	2214.0	2.06	0	0	0	95.0	2.000
	2214.0	1.71	0	0	0	95.0	2.000
	2218.0	1.83	0	0	0	95.0	2.000
	2314.0	1.84	0	0	0	95.0	2.000
	2325.0	2.26	0	0	0	95.0	2.000
	2443.0	2.11	0	0	0	95.0	2.000
	2450.0	1.99	0	0	0	95.0	2.000
	2539.0	1.96	0	0	0	95.0	2.000
	2543.0	2.43	0	0	0	95.0	2.000
	2545.0	1.59	0	0	0	95.0	2.000
	2545.0	1.73	0	0	0	95.0	2.000
	2546.0	2.25	0	0	0	95.0	2.000
	2550.0	2.21	0	0	0	95.0	2.000
	2556.0	2.12	0	0	0	95.0	2.000
	2558.0	2.12	0	0	0	95.0	2.000
	2561.0	1.84	0	0	0	95.0	2.000
	2569.0	1.61	0	0	0	95.0	2.000
	2569.0	2.33	0	0	0	95.0	2.000
	2574.0	2.24	0	0	0	95.0	2.000
	2576.0	2.00	0	0	0	95.0	2.000
	2576.0	1.72	0	0	0	95.0	2.000
	2582.0	1.92	0	0	0	95.0	2.000
	2592.0	2.07	0	0	0	95.0	2.000
	2597.0	2.03	0	0	0	95.0	2.000
	2600.0	2.32	0	0	0	95.0	2.000
	2601.0	1.84	0	0	0	95.0	2.000
	2601.0	2.42	0	0	0	95.0	2.000
	2604.0	1.94	0	0	0	95.0	2.000
	2609.0	2.00	0	0	0	95.0	2.000
	2610.0	2.34	0	0	0	95.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	2611.0	1.76	0	0	0	95.0	2.000
	2620.0	2.01	0	0	0	95.0	2.000
	2620.0	2.50	0	0	0	95.0	2.000
	2622.0	2.21	0	0	0	95.0	2.000
	2623.0	2.41	0	0	0	95.0	2.000
	2625.0	2.12	0	0	0	95.0	2.000
	2625.0	1.92	0	0	0	95.0	2.000
	2643.0	2.44	0	0	0	95.0	2.000
	2646.0	2.24	0	0	0	95.0	2.000
	2647.0	2.35	0	0	0	95.0	2.000
	2648.0	2.45	0	0	0	95.0	2.000
	2657.0	1.81	0	0	0	95.0	2.000
	2661.0	2.01	0	0	0	95.0	2.000
	2666.0	2.37	0	0	0	95.0	2.000
	2667.0	1.97	0	0	0	95.0	2.000
	2668.0	1.82	0	0	0	95.0	2.000
	2668.0	2.28	0	0	0	95.0	2.000
	2673.0	2.28	0	0	0	95.0	2.000
	2674.0	1.88	0	0	0	95.0	2.000
	2675.0	2.19	0	0	0	95.0	2.000
	2679.0	2.75	0	0	0	95.0	2.000
	2684.0	1.99	0	0	0	95.0	2.000
	2686.0	2.41	0	0	0	95.0	2.000
	2688.0	2.10	0	0	0	95.0	2.000
	2704.0	2.33	0	0	0	95.0	2.000
	2708.0	2.44	0	0	0	95.0	2.000
	2711.0	1.98	0	0	0	95.0	2.000
	2718.0	2.14	0	0	0	95.0	2.000
	2721.0	2.09	0	0	0	95.0	2.000
	2725.0	1.84	0	0	0	95.0	2.000
	2728.0	2.68	0	0	0	95.0	2.000
	2728.0	2.37	0	0	0	95.0	2.000
	2729.0	2.53	0	0	0	95.0	2.000
	2731.0	2.42	0	0	0	95.0	2.000
	2732.0	2.53	0	0	0	95.0	2.000
	2734.0	2.38	0	0	0	95.0	2.000
	2737.0	2.43	0	0	0	95.0	2.000
	2742.0	2.34	0	0	0	95.0	2.000
	2745.0	2.18	0	0	0	95.0	2.000
	2757.0	2.52	0	0	0	95.0	2.000
	2760.0	2.63	0	0	0	95.0	2.000
	2760.0	2.58	0	0	0	95.0	2.000
	2770.0	2.81	0	0	0	95.0	2.000
	2772.0	3.20	0	0	0	95.0	2.000
	2775.0	2.55	0	0	0	95.0	2.000
	2779.0	2.72	0	0	0	95.0	2.000
	2781.0	2.29	0	0	0	95.0	2.000
	2783.0	2.07	0	0	0	95.0	2.000
	2788.0	1.92	0	0	0	95.0	2.000
	2790.0	2.19	0	0	0	95.0	2.000
	2790.0	2.30	0	0	0	95.0	2.000
	2790.0	3.07	0	0	0	95.0	2.000
	2793.0	3.13	0	0	0	95.0	2.000
	2796.0	2.70	0	0	0	95.0	2.000
	2804.0	2.32	0	0	0	95.0	2.000
	2808.0	1.83	0	0	0	95.0	2.000
	2815.0	2.17	0	0	0	95.0	2.000
	2818.0	3.01	0	0	0	95.0	2.000
	2819.0	2.12	0	0	0	95.0	2.000
	2819.0	3.02	0	0	0	95.0	2.000
	2821.0	2.57	0	0	0	95.0	2.000
	2824.0	2.91	0	0	0	95.0	2.000
	2825.0	3.14	0	0	0	95.0	2.000
	2826.0	2.53	0	0	0	95.0	2.000
	2828.0	2.30	0	0	0	95.0	2.000
	2830.0	1.91	0	0	0	95.0	2.000
	2835.0	2.99	0	0	0	95.0	2.000

Continued on next page

Table A.1 – *Continued from previous page*

Ref.	T (K)	k (W/m-K)	Bu (GWd/t)	Gd (wt.%)	Pu (wt.%)	TD (%)	O/M (-)
	2836.0	2.54	0	0	0	95.0	2.000
	2840.0	3.23	0	0	0	95.0	2.000
	2842.0	2.67	0	0	0	95.0	2.000
	2843.0	3.52	0	0	0	95.0	2.000
	2843.0	3.06	0	0	0	95.0	2.000
	2857.0	2.98	0	0	0	95.0	2.000
	2884.0	3.44	0	0	0	95.0	2.000
	2894.0	2.82	0	0	0	95.0	2.000
	2915.0	2.50	0	0	0	95.0	2.000
	2916.0	2.86	0	0	0	95.0	2.000
	2926.0	2.88	0	0	0	95.0	2.000
	2966.0	3.75	0	0	0	95.0	2.000
	2981.0	3.29	0	0	0	95.0	2.000
	2991.0	3.25	0	0	0	95.0	2.000
	2993.0	2.94	0	0	0	95.0	2.000
	3000.0	2.96	0	0	0	95.0	2.000
	3008.0	2.97	0	0	0	95.0	2.000
	3008.0	3.04	0	0	0	95.0	2.000
	3019.0	3.31	0	0	0	95.0	2.000
	3026.0	3.01	0	0	0	95.0	2.000
	3027.0	3.33	0	0	0	95.0	2.000
	3039.0	3.23	0	0	0	95.0	2.000
	3062.0	4.19	0	0	0	95.0	2.000