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TABULATIONS OF CALCULATED CRYSTALLOGRAPHIC DATA FOR ALPHA PLUTONIUM

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Alan F. Berndt and
Lowell T. Lloyd

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ABSTRACT

Calculations have been made of the powder pattern and of the angles between planes and directions for alpha plutonium in order to provide useful data for interpretation of X-ray patterns. The calculated powder patterns for Cu, Ni, Co, Fe, Cr, and Ti Kα radiations are tabulated. The angles between planes and the angles between directions are listed, and the standard projections are presented.

I. INTRODUCTION

Studies by X-ray diffraction techniques with polycrystalline or single-crystal specimens are dependent upon a knowledge of various crystallographic data that are computed from the known crystal structure of the material. For structures with high symmetry, the computations are not too laborious, but as the symmetry is lowered the equations become more complex and the computations more numerous.

The problem of developing tables of crystallographic data has arisen in connection with studies on alpha plutonium. The crystal structure of this phase is monoclinic with space group $P_{2_1/m}$.[1] The most recent determination by Zachariasen reports the following unit-cell dimensions at 21°C:[2]

$$a = 6.183 \pm 0.001 \text{ Å}$$
$$b = 4.822 \pm 0.001 \text{ Å}$$
$$c = 10.963 \pm 0.001 \text{ Å}$$
$$\alpha = \gamma = 90°$$
$$\beta = 101.79 \pm 0.01°$$

All 16 atoms in the unit cell lie in the mirror planes with coordinates $\pm(x, 1/4, z)$. The values of x and z are as follows:

Atom	x	z	Atom	x	z
I	0.345	0.162	V	0.025	0.618
II	0.767	0.168	VI	0.473	0.653
III	0.128	0.340	VII	0.328	0.926
IV	0.657	0.457	VIII	0.869	0.894

These data have been used in conjunction with computer programs to evaluate certain of the crystallographic data.

II. X-RAY PATTERNS OF POLYCRYSTALLINE ALPHA URANIUM

X-ray patterns made from polycrystalline or powdered specimens, in addition to their use in determining unknown structures and in phase identification, are used to determine precise lattice constants and in studies of preferred orientation of polycrystalline specimens. For the latter purposes it is necessary that the observed lines be indexed. In order to provide the data which are needed to accomplish this, the complete powder patterns of alpha plutonium have been calculated for a series of radiations. These data will be useful in indexing both Debye-Scherrer patterns and Laue patterns made with monochromatic radiation.

A. Calculation of Line Positions and Intensities

For a monoclinic crystal with lattice constants a, b, c and

$$\alpha = \gamma = 90° \neq \beta \quad ,$$

the interplanar spacing d for a reflection from planes with Miller indices $hk\ell$ is given by the equation

$$\frac{1}{d^2} = \frac{4}{\lambda^2} \sin^2\theta = \frac{h^2}{a^2\sin^2\beta} + \frac{k^2}{b^2} + \frac{\ell^2}{c^2\sin^2\beta} - \frac{2\,h\ell\cos\beta}{ac\,\sin^2\beta} \quad . \tag{1}$$

For centrosymmetric alpha plutonium the structure factor of the $hk\ell$ reflection is given by the equation

$$F(hk\ell) = f_{Pu} \sum_i [\cos 2\pi(hx_i + ky_i + \ell z_i)] \exp[-(B^2\sin^2\theta)/\lambda^2] \quad , \tag{2}$$

where B is usually handled as a constant and where the exponential term can generally be neglected. Summation is over all eight atoms in the asymmetric unit. The atomic scattering factor for plutonium, f_{Pu}, is a function of $(\sin\theta)/\lambda$. The observed intensity of the diffraction line is given by

$$I(hk\ell) \propto |F(hk\ell)|^2 p\ LP \quad , \tag{3}$$

where p is the multiplicity of the line and LP is the Lorentz-polarization factor.

The positions of all possible reflections were calculated with an IBM 704 machine according to the program developed by Mueller, Meyer

and Simonsen.[3] This program takes the unit cell dimensions and the wavelength of the radiation as input data, generates indices, tests for space-group extinctions (for alpha plutonium, space group $P_{2_1/m}$, the only absent reflections are 0k0 for k odd), and calculates d, $1/d^2$, $\sin\theta$, $\sin^2\theta$, $(\sin\theta)/\lambda$, $(\sin^2\theta)/\lambda^2$, θ, and 2θ for each reflection.

The structure factors for each reflection were calculated by the program of Busing and Levy.[4] The mean atomic scattering factor determined from the Thomas-Fermi-Dirac statistical model was used.[5] The temperature factor, $\exp[-(B^2\sin^2\theta)/\lambda^2]$, has been omitted.

B. Results

Tables I through VI list h, k, ℓ, d, I, $\sin^2\theta$, and θ for all possible reflections from alpha plutonium for Cu, Ni, Co, Fe, Cr, and Ti Kα radiations (see Table VII for values of the wavelengths). The first five elements are commercially available as X-ray targets. The radiation from titanium has been included because it may be useful in alpha-plutonium work, since its long wavelength reduces the number of possible reflections. Wavelengths shorter than that of CuKα (1.54 Å) were not considered because the large number of possible reflections would make the interpretation of the patterns nearly impossible. Debye-Scherrer patterns of a polycrystalline needle specimen of alpha plutonium, for some of the above radiations, are shown in Figure 1. The Lorentz-polarization factor is not included in the calculated intensities because of its dependence upon camera geometry.* The intensities are given in units of electrons squared. Multiplicity has been taken into account. Where two values of $\sin^2\theta$ and θ are tabulated for a given reflection, the smaller value is for Kα_1 radiation and the larger value is for Kα_2. A separation in θ of 0.150 degree was arbitrarily chosen as sufficient to separate the two lines. This occurs at about $\theta = 45°$ for Cu Kα radiation. When only one value of $\sin^2\theta$ and θ are given, they are for an average wavelength

$$K\alpha_{ave} = (2\ K\alpha_1 + K\alpha_2)/3 \quad .$$

*The LP for Debye-Scherrer lines on cylindrical films has been calculated and is available on request.

TABLE I

CALCULATED POWDER PATTERN OF ALPHA PLUTONIUM
FOR COPPER K ALPHA RADIATION

H	K	L	D	I	SIN SQ THETA	THETA
0	0	1	10.7317	853	0.0052	4.119
1	0	0	6.0526	678	0.0162	7.317
1	0	- 1	5.8037	588	0.0176	7.633
0	0	2	5.3659	138	0.0206	8.260
1	0	1	4.8638	1825	0.0251	9.120
1	0	- 2	4.4971	4894	0.0294	9.870
0	1	1	4.3984	8995	0.0307	10.094
1	1	0	3.7714	4393	0.0418	11.795
1	1	- 1	3.7089	16657	0.0432	11.996
1	0	2	3.6610	3608	0.0443	12.156
0	1	2	3.5866	28226	0.0462	12.412
0	0	3	3.5772	7381	0.0464	12.445
1	1	1	3.4244	13760	0.0507	13.010
1	0	- 3	3.3987	22	0.0514	13.110
1	1	- 2	3.2888	18723	0.0549	13.556
2	0	- 1	3.0818	45422	0.0626	14.486
2	0	0	3.0263	14335	0.0649	14.758
1	1	2	2.9158	258705	0.0699	15.330
2	0	- 2	2.9018	54127	0.0706	15.406
0	1	3	2.8730	440708	0.0720	15.565
1	0	3	2.8362	134348	0.0739	15.772
1	1	- 3	2.7780	1098981	0.0770	16.111
2	0	1	2.7687	552974	0.0775	16.167
0	0	4	2.6829	896016	0.0826	16.698
1	0	- 4	2.6626	1905	0.0838	16.830
2	1	- 1	2.5968	137509	0.0881	17.269
2	0	- 3	2.5855	1422436	0.0889	17.347
2	1	0	2.5633	117179	0.0904	17.502
2	1	- 2	2.4863	125975	0.0961	18.062
1	1	3	2.4447	125261	0.0994	18.381
2	0	2	2.4319	13218	0.1005	18.481
0	2	0	2.4110	3158824	0.1022	18.647
2	1	1	2.4010	3544270	0.1031	18.727
0	2	1	2.3524	1211	0.1074	19.130
0	1	4	2.3445	1322720	0.1081	19.197
1	1	- 4	2.3308	925878	0.1094	19.313
1	0	4	2.2858	196356	0.1137	19.709
2	1	- 3	2.2786	509393	0.1145	19.774
2	0	- 4	2.2486	107848	0.1175	20.050
1	2	0	2.2398	992	0.1185	20.131
1	2	- 1	2.2265	864	0.1199	20.257
0	2	2	2.1992	203	0.1229	20.520
2	1	2	2.1714	276566	0.1260	20.795
1	0	- 5	2.1672	122606	0.1265	20.837
1	2	1	2.1602	2713	0.1274	20.908
0	0	5	2.1463	13540	0.1290	21.049
1	2	- 2	2.1249	7340	0.1316	21.272
2	0	3	2.1078	23796	0.1338	21.453
1	1	4	2.0655	222898	0.1393	21.914
3	0	- 1	2.0607	62710	0.1399	21.968
2	1	- 4	2.0379	500	0.1431	22.227
3	0	- 2	2.0300	639225	0.1442	22.318
3	0	0	2.0175	57115	0.1460	22.464
1	2	2	2.0136	5547	0.1466	22.510
0	2	3	1.9993	11379	0.1487	22.680

TABLE I CONTINUED

H	K	L	D	I	SIN SQ THETA	THETA
1	1	- 5	1.9767	44718	0.1521	22.953
1	2	- 3	1.9665	34	0.1537	23.080
0	1	5	1.9609	50847	0.1546	23.150
2	0	- 5	1.9487	150534	0.1565	23.303
3	0	- 3	1.9346	134068	0.1588	23.483
2	1	3	1.9313	79615	0.1593	23.525
3	0	1	1.9131	76027	0.1624	23.763
1	0	5	1.9041	227992	0.1639	23.883
2	2	- 1	1.8989	71503	0.1648	23.951
3	1	- 1	1.8949	111030	0.1655	24.005
2	2	0	1.8857	22626	0.1671	24.130
3	1	- 2	1.8710	400538	0.1698	24.332
3	1	0	1.8612	298686	0.1716	24.469
2	2	- 2	1.8544	85958	0.1728	24.563
1	2	3	1.8370	214082	0.1761	24.813
2	0	4	1.8305	466841	0.1774	24.907
1	0	- 6	1.8193	54802	0.1795	25.070
2	2	1	1.8182	884324	0.1798	25.086
2	1	- 5	1.8067	267446	0.1821	25.257
3	0	- 4	1.7986	10881	0.1837	25.378
3	1	- 3	1.7955	34915	0.1843	25.427
0	2	4	1.7933	1439713	0.1848	25.460
0	0	6	1.7886	152719	0.1858	25.531
1	2	- 4	1.7872	3065	0.1861	25.553
3	1	1	1.7782	16975	0.1879	25.691
3	0	2	1.7729	7303	0.1891	25.774
1	1	5	1.7710	50746	0.1895	25.803
2	2	- 3	1.7633	2298419	0.1911	25.924
2	2	2	1.7122	21543	0.2027	26.759
2	1	4	1.7113	787058	0.2029	26.773
1	1	- 6	1.7022	41035	0.2051	26.929
2	0	- 6	1.6994	70985	0.2058	26.977
3	1	- 4	1.6852	19660	0.2093	27.222
0	1	6	1.6770	294403	0.2113	27.367
3	1	2	1.6640	24701	0.2146	27.599
1	2	4	1.6588	322630	0.2160	27.692
3	0	- 5	1.6476	0	0.2189	27.897
2	2	- 4	1.6444	177642	0.2198	27.956
1	0	6	1.6273	13715	0.2244	28.276
3	0	3	1.6213	156653	0.2261	28.391
1	2	- 5	1.6118	203077	0.2288	28.574
0	2	5	1.6031	22460	0.2312	28.742
2	0	5	1.6030	15624	0.2313	28.745
2	1	- 6	1.6028	225228	0.2313	28.749
0	3	1	1.5896	5622	0.2352	29.010
2	2	3	1.5869	39582	0.2360	29.064
3	2	- 1	1.5665	104674	0.2422	29.480
1	0	- 7	1.5642	61442	0.2429	29.527
3	1	- 5	1.5591	212252	0.2445	29.633
1	3	0	1.5535	2814	0.2462	29.751
3	2	- 2	1.5529	1069458	0.2464	29.764
1	3	- 1	1.5490	10700	0.2477	29.845
3	2	0	1.5473	95648	0.2482	29.883
4	0	- 1	1.5425	13183	0.2498	29.984
1	1	6	1.5419	137388	0.2500	29.998
4	0	- 2	1.5409	7745	0.2503	30.019
0	3	2	1.5397	18236	0.2507	30.044
3	1	3	1.5367	24053	0.2516	30.109

TABLE I CONTINUED

H	K	L	D	I	SIN SQ THETA	THETA
0	0	7	1.5331	108370	0.2528	30.187
1	3	1	1.5262	8962	0.2551	30.339
2	1	5	1.5211	926631	0.2568	30.450
2	2	- 5	1.5155	253224	0.2587	30.574
1	3	- 2	1.5136	12283	0.2594	30.619
4	0	0	1.5131	61453	0.2596	30.628
3	2	- 3	1.5089	225721	0.2610	30.724
4	0	- 3	1.5086	32740	0.2611	30.731
3	0	- 6	1.4990	192995	0.2645	30.948
3	2	1	1.4986	128173	0.2646	30.957
2	0	- 7	1.4964	83059	0.2654	31.008
1	2	5	1.4943	384584	0.2661	31.057
1	1	- 7	1.4879	794067	0.2684	31.206
3	0	4	1.4743	28981	0.2734	31.527
1	3	2	1.4717	173641	0.2744	31.587
4	1	- 1	1.4692	846808	0.2753	31.648
4	1	- 2	1.4678	1418703	0.2758	31.682
0	3	3	1.4661	296663	0.2765	31.722
0	1	7	1.4610	1681575	0.2784	31.846
2	2	4	1.4579	791200	0.2796	31.922
4	0	1	1.4577	50534	0.2797	31.927
1	3	- 3	1.4530	744745	0.2815	32.042
1	2	- 6	1.4522	92946	0.2818	32.062
4	0	- 4	1.4509	27036	0.2823	32.094
4	1	0	1.4437	127281	0.2851	32.273
3	2	- 4	1.4417	18480	0.2859	32.325
4	1	- 3	1.4398	20888	0.2867	32.373
0	2	6	1.4365	259544	0.2880	32.456
3	1	- 6	1.4315	2012886	0.2900	32.584
2	1	- 7	1.4292	89344	0.2909	32.642
3	2	2	1.4283	12425	0.2913	32.665
2	3	- 1	1.4251	94493	0.2926	32.746
2	3	0	1.4195	80762	0.2949	32.892
1	0	7	1.4188	34992	0.2952	32.912
2	0	6	1.4181	28852	0.2955	32.930
3	1	4	1.4098	688417	0.2990	33.147
2	3	- 2	1.4060	87425	0.3006	33.248
1	3	3	1.3984	87235	0.3039	33.454
4	1	1	1.3953	57211	0.3052	33.537
2	3	1	1.3901	2477630	0.3075	33.681
4	1	- 4	1.3894	149541	0.3079	33.700
2	2	- 6	1.3890	121606	0.3080	33.710
4	0	2	1.3843	75617	0.3101	33.840
0	3	4	1.3788	929317	0.3126	33.993
4	0	- 5	1.3762	100	0.3138	34.067
1	3	- 4	1.3760	651311	0.3139	34.071
1	0	- 8	1.3702	107828	0.3165	34.238
2	3	- 3	1.3651	360077	0.3189	34.384
3	0	- 7	1.3621	91723	0.3203	34.470
1	1	7	1.3611	2470	0.3208	34.498
2	1	6	1.3605	4	0.3211	34.516
3	2	- 5	1.3603	0	0.3211	34.520
1	2	6	1.3488	23642	0.3266	34.857
3	2	3	1.3454	270165	0.3283	34.959
0	0	8	1.3415	18536	0.3302	35.076
2	3	2	1.3409	197566	0.3305	35.092
3	0	5	1.3398	170209	0.3311	35.127
2	2	5	1.3349	26983	0.3335	35.275

TABLE I CONTINUED

H	K	L	D	I	SIN SQ THETA	THETA
2	0	- 8	1.3313	156740	0.3353	35.384
4	1	2	1.3306	1030598	0.3357	35.406
4	1	- 5	1.3234	73089	0.3393	35.628
1	1	- 8	1.3180	119555	0.3421	35.796
1	3	4	1.3148	161020	0.3438	35.896
1	2	- 7	1.3122	106441	0.3451	35.978
3	1	- 7	1.3108	225898	0.3459	36.023
2	3	- 4	1.3076	362	0.3476	36.125
4	0	3	1.3014	242323	0.3509	36.323
4	2	- 1	1.2994	22878	0.3520	36.391
4	2	- 2	1.2984	13443	0.3525	36.422
0	2	7	1.2937	188216	0.3551	36.575
4	0	- 6	1.2928	24498	0.3556	36.606
0	1	8	1.2924	253807	0.3558	36.619
1	3	- 5	1.2910	32617	0.3566	36.664
3	1	5	1.2909	93716	0.3566	36.669
0	3	5	1.2866	37146	0.3590	36.812
2	1	- 8	1.2833	23490	0.3609	36.921
4	2	0	1.2816	106909	0.3618	36.976
4	2	- 3	1.2789	56978	0.3634	37.070
2	3	3	1.2781	58337	0.3638	37.096
3	2	- 6	1.2730	336147	0.3667	37.269
2	2	- 7	1.2714	144700	0.3676	37.323
3	3	- 1	1.2674	81663	0.3700	37.463
2	0	7	1.2672	72660	0.3701	37.469
3	3	- 2	1.2602	295343	0.3742	37.716
3	2	4	1.2578	50585	0.3757	37.800
3	3	0	1.2571	220471	0.3760	37.822
1	0	8	1.2566	111777	0.3764	37.842
4	1	3	1.2565	77074	0.3764	37.845
4	1	- 6	1.2487	18659	0.3811	38.124
4	2	1	1.2474	88353	0.3819	38.169
4	2	- 4	1.2432	47317	0.3845	38.324
3	0	- 8	1.2400	22320	0.3865	38.440
2	3	- 5	1.2400	198778	0.3865	38.441
5	0	- 2	1.2363	8879	0.3888	38.575
3	3	- 3	1.2363	25992	0.3888	38.576
5	0	- 1	1.2312	417303	0.3920	38.764
3	3	1	1.2306	12668	0.3924	38.786
1	3	5	1.2282	37912	0.3939	38.877
2	1	7	1.2256	114865	0.3956	38.976
5	0	- 3	1.2252	38973	0.3959	38.992
1	2	7	1.2228	61511	0.3975	39.083
2	2	6	1.2223	50721	0.3977	39.100
3	0	6	1.2203	18727	0.3991	39.176
1	0	- 9	1.2181	3148	0.4005	39.263
1	1	8	1.2160	252123	0.4019	39.344
4	0	4	1.2159	14846	0.4019	39.345
5	0	0	1.2105	83702	0.4056	39.556
2	3	4	1.2078	593348	0.4074	39.663
4	0	- 7	1.2073	29044	0.4077	39.681
0	4	0	1.2055	1944792	0.4089	39.753
1	3	- 6	1.2046	30980	0.4096	39.790
3	1	- 8	1.2009	5067	0.4121	39.935
4	2	2	1.2005	133424	0.4123	39.951
5	0	- 4	1.1991	16546	0.4133	40.009
3	3	- 4	1.1985	14882	0.4137	40.031
0	4	1	1.1980	750	0.4141	40.053

TABLE I CONTINUED

H	K	L	D	I	SIN SQ THETA	THETA
5	1	- 2	1.1976	17435	0.4144	40.069
2	0	- 9	1.1959	22105	0.4155	40.138
0	3	6	1.1955	223160	0.4158	40.152
4	2	- 5	1.1952	176	0.4160	40.165
5	1	- 1	1.1930	496283	0.4176	40.256
0	0	9	1.1924	24	0.4180	40.278
1	2	- 8	1.1912	190564	0.4188	40.326
3	3	2	1.1908	18762	0.4191	40.344
5	1	- 3	1.1874	21827	0.4215	40.482
3	2	- 7	1.1859	162253	0.4226	40.545
3	1	6	1.1830	502	0.4246	40.664
1	4	0	1.1823	623	0.4252	40.695
1	1	- 9	1.1810	36496	0.4261	40.750
1	4	- 1	1.1803	543	0.4266	40.778
4	1	4	1.1790	102441	0.4275	40.831
5	0	1	1.1764	233643	0.4294	40.942
0	4	2	1.1762	128	0.4296	40.951
5	1	0	1.1741	990	0.4311	41.040
0	2	8	1.1722	32868	0.4325	41.119
4	1	- 7	1.1712	143721	0.4333	41.165
3	2	5	1.1711	301872	0.4333	41.168
1	4	1	1.1701	1721	0.4341	41.210
2	3	- 6	1.1677	172574	0.4358	41.312
2	2	- 8	1.1654	278265	0.4375	41.412
1	4	- 2	1.1644	4678	0.4383	41.457
5	1	- 4	1.1636	23763	0.4389	41.490
5	0	- 5	1.1607	1556120	0.4411	41.616
2	1	- 9	1.1607	714338	0.4411	41.618
0	1	9	1.1575	95433	0.4435	41.757
3	3	- 5	1.1505	163702	0.4489	42.069
4	2	3	1.1452	431770	0.4531	42.308
1	4	2	1.1450	3591	0.4533	42.319
1	3	6	1.1436	106246	0.4544	42.386
2	0	8	1.1429	1361343	0.4549	42.415
5	1	1	1.1429	242847	0.4550	42.416
0	4	3	1.1424	7382	0.4554	42.440
3	3	3	1.1415	18616	0.4561	42.482
4	2	- 6	1.1393	43698	0.4578	42.580
1	4	- 3	1.1362	22	0.4604	42.727
2	3	5	1.1350	718949	0.4613	42.780
3	0	- 9	1.1329	445535	0.4630	42.879
4	0	5	1.1325	744132	0.4633	42.897
5	0	2	1.1322	470	0.4636	42.911
5	1	- 5	1.1285	31896	0.4666	43.087
1	0	9	1.1271	5928	0.4678	43.155
4	0	- 8	1.1243	162131	0.4702	43.289
2	4	- 1	1.1227	47030	0.4715	43.366
2	2	7	1.1217	130032	0.4723	43.412
1	3	- 7	1.1210	619451	0.4729	43.447
2	4	0	1.1199	14910	0.4738	43.499
3	0	7	1.1158	113	0.4774	43.702
1	2	8	1.1143	200315	0.4786	43.774
5	0	- 6	1.1137	43668	0.4791	43.805
2	4	- 2	1.1133	56906	0.4795	43.825
4	3	- 1	1.1129	662672	0.4798	43.841
4	3	- 2	1.1123	1110474	0.4803	43.871
2	1	8	1.1121	15622	0.4805	43.883
1	4	3	1.1094	142100	0.4828	44.015

TABLE I CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
0	3	7	1.1094	1317761	0.4829		44.018	
2	4	1	1.1053	588671	0.4865		44.224	
3	1	- 9	1.1029	452427	0.4886		44.345	
3	2	- 8	1.1027	40053	0.4887		44.355	
4	1	5	1.1025	203764	0.4889		44.363	
5	1	2	1.1022	771011	0.4891		44.378	
4	3	0	1.1017	100045	0.4896		44.403	
5	2	- 2	1.1001	15936	0.4910		44.486	
4	3	- 3	1.1000	16430	0.4912		44.493	
0	4	4	1.0996	962125	0.4915		44.512	
1	4	- 4	1.0982	2050	0.4928		44.585	
1	1	9	1.0975	67224	0.4934		44.621	
5	2	- 1	1.0965	749121	0.4943		44.671	
3	3	- 6	1.0963	1585620	0.4945		44.684	
1	0	-10	1.0959	619882	0.4948		44.704	
2	3	- 7	1.0952	70408	0.4954		44.737	
4	1	- 8	1.0949	99090	0.4957		44.754	
2	4	- 3	1.0926	1543386	0.4978		44.875	
5	2	- 3	1.0922	69981	0.4981		44.894	
3	2	6	1.0888	33634	0.5013		45.074	
1	2	- 9	1.0872	5655	0.5028		45.158	
3	1	7	1.0870	42572	0.5029		45.167	
3	3	4	1.0865	543947	0.5034		45.198	
4	2	4	1.0857	26668	0.5042		45.239	
5	1	- 6	1.0851	128700	0.5047		45.270	
2	0	-10	1.0836	55075	0.5061		45.350	
5	2	0	1.0818	150394	0.5078		45.446	
5	0	3	1.0815	14287	0.5081		45.463	
2	4	2	1.0801	14590	0.5094		45.539	
4	3	1	1.0798	45295	0.5097		45.555	
4	2	- 7	1.0795	52194	0.5099		45.570	
4	3	- 4	1.0770	118492	0.5123		45.706	
5	2	- 4	1.0736	29744	0.5156		45.892	
0	0	10	1.0732	177807	0.5160		45.917	
2	2	- 9	1.0713	39743	0.5178		46.019	
0	2	9	1.0688	44	0.5202		46.157	
1	1	-10	1.0686	246193	0.5204		46.169	
1	4	4	1.0663	220520	0.5227		46.299	
1	3	7	1.0637	1965	0.5253		46.448	
2	3	6	1.0634	3	0.5255		46.464	
2	4	- 4	1.0624	121693	0.5265		46.517	
5	0	- 7	1.0614	51840	0.5267	0.5293	46.529	46.679
5	2	1	1.0573	420424	0.5308	0.5334	46.764	46.915
2	1	-10	1.0572	397501	0.5308	0.5334	46.765	46.917
5	1	3	1.0553	131038	0.5328	0.5354	46.878	47.030
4	0	6	1.0539	9413	0.5342	0.5368	46.959	47.111
1	4	- 5	1.0535	139844	0.5346	0.5372	46.983	47.135
0	4	5	1.0511	15488	0.5370	0.5397	47.124	47.278
4	3	2	1.0489	823554	0.5392	0.5419	47.250	47.404
0	1	10	1.0475	339	0.5407	0.5433	47.332	47.487
2	4	3	1.0464	27369	0.5418	0.5445	47.398	47.552
4	0	- 9	1.0462	95192	0.5420	0.5447	47.410	47.565
5	2	- 5	1.0458	2802011	0.5424	0.5451	47.433	47.588
4	3	- 5	1.0454	58468	0.5429	0.5456	47.461	47.616
1	3	- 8	1.0427	95717	0.5457	0.5484	47.621	47.776
3	4	- 1	1.0405	72624	0.5480	0.5507	47.753	47.909
3	0	-10	1.0396	6758	0.5489	0.5517	47.808	47.965
2	0	9	1.0393	34554	0.5492	0.5520	47.826	47.983

TABLE I CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
3	3	- 7	1.0391	181053	0.5494	0.5522	47.837	47.995
5	1	- 7	1.0366	9556	0.5522	0.5549	47.995	48.153
3	4	- 2	1.0365	743731	0.5522	0.5550	47.998	48.156
3	4	0	1.0348	66581	0.5540	0.5568	48.101	48.260
2	2	8	1.0327	2453154	0.5563	0.5590	48.230	48.390
6	0	- 2	1.0304	53909	0.5588	0.5616	48.380	48.540
0	3	8	1.0299	203997	0.5593	0.5621	48.408	48.568
4	1	6	1.0296	164046	0.5597	0.5625	48.427	48.588
3	3	5	1.0291	75342	0.5602	0.5630	48.456	48.617
5	0	4	1.0275	7934	0.5620	0.5648	48.559	48.720
6	0	- 3	1.0273	33349	0.5622	0.5650	48.574	48.735
3	2	- 9	1.0254	803200	0.5643	0.5671	48.695	48.857
2	3	- 8	1.0253	18906	0.5644	0.5672	48.700	48.862
2	4	- 5	1.0252	177256	0.5645	0.5673	48.706	48.868
4	2	5	1.0251	1341525	0.5646	0.5674	48.713	48.875
5	2	2	1.0248	848	0.5649	0.5677	48.728	48.890
3	0	8	1.0247	47533	0.5650	0.5678	48.737	48.899
6	0	- 1	1.0240	104935	0.5658	0.5686	48.780	48.943
3	4	- 3	1.0231	158194	0.5668	0.5696	48.838	49.001
4	1	- 9	1.0224	11235	0.5675	0.5704	48.881	49.044
1	0	10	1.0214	9	0.5687	0.5715	48.947	49.110
1	2	9	1.0210	10690	0.5691	0.5719	48.973	49.137
3	4	1	1.0199	89995	0.5704	0.5732	49.045	49.209
4	2	- 8	1.0189	292392	0.5714	0.5743	49.107	49.272
1	4	5	1.0185	270246	0.5719	0.5747	49.134	49.299
3	1	-10	1.0163	403382	0.5744	0.5773	49.281	49.447
2	1	9	1.0160	991	0.5748	0.5776	49.299	49.465
6	0	- 4	1.0150	29963	0.5759	0.5787	49.364	49.530
3	2	7	1.0126	204	0.5786	0.5815	49.524	49.691
4	3	3	1.0115	62301	0.5799	0.5828	49.599	49.766
5	2	- 6	1.0110	78788	0.5804	0.5833	49.628	49.795
6	0	0	1.0088	305253	0.5830	0.5859	49.780	49.948
6	1	- 2	1.0076	60878	0.5844	0.5873	49.857	50.026
4	3	- 6	1.0074	15100	0.5846	0.5875	49.873	50.042
5	0	- 8	1.0068	985	0.5853	0.5882	49.910	50.079
2	4	4	1.0068	559763	0.5853	0.5882	49.913	50.082
5	1	4	1.0049	46758	0.5875	0.5904	50.038	50.208
1	4	- 6	1.0049	65829	0.5875	0.5904	50.040	50.210
6	1	- 3	1.0047	6476	0.5877	0.5906	50.052	50.222
3	1	8	1.0023	56513	0.5906	0.5935	50.217	50.388
6	1	- 1	1.0017	259845	0.5913	0.5942	50.261	50.432
3	4	- 4	1.0014	13115	0.5916	0.5946	50.281	50.452
0	4	6	0.9996	184395	0.5937	0.5967	50.401	50.573
1	1	10	0.9992	9954	0.5942	0.5971	50.429	50.601
1	2	-10	0.9977	1119641	0.5961	0.5990	50.539	50.712
3	4	2	0.9969	8845	0.5970	0.6000	50.594	50.767
1	0	-11	0.9957	0	0.5985	0.6014	50.679	50.852
2	3	7	0.9951	93185	0.5991	0.6021	50.716	50.890
6	0	- 5	0.9945	629	0.5998	0.6028	50.759	50.934
6	1	- 4	0.9932	123188	0.6014	0.6044	50.850	51.025
1	3	8	0.9900	204859	0.6054	0.6084	51.084	51.261
2	0	-11	0.9895	18773	0.6060	0.6090	51.119	51.296
2	2	-10	0.9884	99683	0.6073	0.6104	51.198	51.375
6	1	0	0.9874	30917	0.6085	0.6116	51.269	51.447
5	2	3	0.9868	25869	0.6093	0.6123	51.313	51.491
6	0	1	0.9857	19644	0.6106	0.6136	51.389	51.567
5	1	- 8	0.9856	414755	0.6108	0.6138	51.401	51.579
2	4	- 6	0.9832	87306	0.6137	0.6167	51.572	51.752

TABLE I CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
3	3	- 8	0.9818	4128	0.6155	0.6186	51.679	51.859
4	0	7	0.9813	48965	0.6161	0.6191	51.711	51.891
0	2	10	0.9804	322399	0.6172	0.6203	51.779	51.960
5	3	- 2	0.9800	14210	0.6178	0.6209	51.814	51.995
5	3	- 1	0.9774	404797	0.6210	0.6241	52.003	52.186
0	0	11	0.9756	267029	0.6233	0.6264	52.140	52.323
1	1	-11	0.9751	195963	0.6240	0.6271	52.178	52.362
5	3	- 3	0.9744	17820	0.6249	0.6280	52.233	52.417
4	0	-10	0.9743	35182	0.6250	0.6281	52.237	52.421
6	1	- 5	0.9740	20153	0.6254	0.6285	52.260	52.444
3	4	- 5	0.9729	0	0.6268	0.6299	52.346	52.531
5	0	5	0.9728	229561	0.6270	0.6301	52.356	52.541
3	3	6	0.9719	410	0.6280	0.6312	52.419	52.604
5	2	- 7	0.9714	94192	0.6287	0.6319	52.460	52.645
1	3	- 9	0.9708	29829	0.6295	0.6326	52.506	52.692
4	3	4	0.9697	83756	0.6309	0.6340	52.589	52.776
2	1	-11	0.9693	45854	0.6315	0.6346	52.625	52.811
1	4	6	0.9687	17129	0.6323	0.6354	52.672	52.858
3	4	3	0.9674	195889	0.6340	0.6371	52.771	52.958
6	0	- 6	0.9673	655	0.6341	0.6373	52.779	52.967
5	3	0	0.9670	810	0.6345	0.6377	52.804	52.992
6	1	1	0.9658	4214	0.6361	0.6393	52.897	53.086
4	2	6	0.9657	17127	0.6362	0.6394	52.905	53.093
4	3	- 7	0.9653	117667	0.6367	0.6398	52.932	53.121
2	4	5	0.9635	19613	0.6392	0.6423	53.080	53.269
4	1	7	0.9616	170582	0.6416	0.6448	53.224	53.415
5	3	- 4	0.9611	19481	0.6423	0.6455	53.268	53.458
0	5	1	0.9605	3539	0.6431	0.6462	53.313	53.504
4	2	- 9	0.9598	173436	0.6441	0.6473	53.374	53.566
2	3	- 9	0.9594	585924	0.6445	0.6477	53.400	53.591
3	0	-11	0.9584	2088	0.6459	0.6491	53.483	53.676
0	3	9	0.9577	78321	0.6469	0.6501	53.544	53.736
6	0	2	0.9565	28985	0.6484	0.6517	53.635	53.828
0	1	11	0.9562	327243	0.6488	0.6521	53.659	53.853
4	1	-10	0.9550	50830	0.6505	0.6537	53.758	53.952
1	4	- 7	0.9548	77791	0.6507	0.6540	53.774	53.968
3	2	-10	0.9547	12329	0.6510	0.6542	53.788	53.983
2	2	9	0.9544	63036	0.6513	0.6545	53.807	54.002
5	1	5	0.9536	6524	0.6525	0.6557	53.879	54.074
1	5	0	0.9524	1785	0.6541	0.6573	53.975	54.171
5	0	- 9	0.9523	296434	0.6542	0.6574	53.981	54.176
2	0	10	0.9520	3656	0.6546	0.6578	54.004	54.200
1	5	- 1	0.9514	6797	0.6555	0.6588	54.061	54.257
4	4	- 1	0.9498	16773	0.6576	0.6609	54.187	54.384
4	4	- 2	0.9495	9858	0.6581	0.6614	54.218	54.416
5	3	1	0.9493	199831	0.6583	0.6616	54.231	54.429
0	5	2	0.9492	11608	0.6585	0.6618	54.241	54.439
6	1	- 6	0.9484	8709	0.6596	0.6629	54.309	54.507
0	4	7	0.9476	138187	0.6607	0.6640	54.373	54.571
6	2	- 2	0.9475	98513	0.6609	0.6642	54.387	54.586
1	5	1	0.9460	5723	0.6630	0.6663	54.512	54.712
3	0	9	0.9454	161700	0.6638	0.6671	54.562	54.762
5	2	4	0.9452	14506	0.6640	0.6673	54.575	54.775
6	2	- 3	0.9451	60978	0.6643	0.6676	54.590	54.791
3	2	8	0.9431	86955	0.6671	0.6704	54.762	54.964
1	5	- 2	0.9430	7867	0.6672	0.6706	54.770	54.972
4	4	0	0.9429	78732	0.6674	0.6707	54.779	54.981
6	2	- 1	0.9425	191989	0.6679	0.6712	54.808	55.010

TABLE I CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
4	4	- 3	0.9418	41991	0.6690	0.6723	54.875	55.077
5	3	- 5	0.9410	26316	0.6700	0.6733	54.939	55.141
1	2	10	0.9405	18	0.6707	0.6741	54.983	55.186
3	1	-11	0.9400	1833	0.6714	0.6748	55.025	55.229
3	4	- 6	0.9394	248101	0.6723	0.6756	55.078	55.282
2	4	- 7	0.9388	106843	0.6732	0.6765	55.134	55.338
6	1	2	0.9383	4915	0.6739	0.6773	55.179	55.384
6	2	- 4	0.9355	54917	0.6779	0.6813	55.424	55.630
6	0	- 7	0.9350	5224	0.6787	0.6821	55.469	55.676
5	1	- 9	0.9343	701886	0.6797	0.6831	55.532	55.739
2	1	10	0.9340	1010	0.6801	0.6835	55.556	55.764
1	0	11	0.9337	32599	0.6806	0.6840	55.586	55.794
3	4	4	0.9332	37485	0.6812	0.6846	55.626	55.834
1	5	2	0.9326	112368	0.6822	0.6856	55.683	55.892
2	3	8	0.9314	12929	0.6838	0.6872	55.786	55.996
0	5	3	0.9312	192251	0.6843	0.6877	55.813	56.022
6	2	0	0.9306	560168	0.6851	0.6885	55.864	56.074
5	2	- 8	0.9291	1809	0.6873	0.6908	56.002	56.213
4	4	1	0.9290	65637	0.6875	0.6909	56.010	56.221
1	5	- 3	0.9278	484252	0.6893	0.6927	56.121	56.333
3	1	9	0.9277	3135	0.6893	0.6927	56.125	56.337
4	4	- 4	0.9272	35178	0.6901	0.6935	56.172	56.385
3	3	- 9	0.9260	375090	0.6919	0.6953	56.284	56.498
4	3	5	0.9258	168944	0.6922	0.6956	56.304	56.518
5	3	2	0.9256	639296	0.6925	0.6959	56.319	56.533
6	0	3	0.9229	71328	0.6966	0.7000	56.576	56.792
1	3	9	0.9228	55791	0.6967	0.7002	56.583	56.799
4	3	- 8	0.9213	82278	0.6990	0.7025	56.728	56.945
2	5	- 1	0.9204	61885	0.7004	0.7038	56.812	57.030
1	2	-11	0.9203	0	0.7005	0.7040	56.822	57.040
6	2	- 5	0.9194	1157	0.7019	0.7054	56.908	57.127
5	0	6	0.9191	30642	0.7023	0.7058	56.934	57.153
2	5	0	0.9189	52958	0.7027	0.7062	56.957	57.176
1	4	7	0.9187	45900	0.7030	0.7065	56.977	57.196
2	4	6	0.9185	37851	0.7033	0.7068	56.995	57.214
6	1	- 7	0.9179	6610	0.7042	0.7077	57.052	57.272
1	1	11	0.9166	874635	0.7061	0.7096	57.171	57.392
3	3	7	0.9166	35403	0.7062	0.7097	57.178	57.399
5	3	- 6	0.9154	107069	0.7080	0.7115	57.291	57.513
2	2	-11	0.9154	34525	0.7081	0.7116	57.295	57.517
4	0	8	0.9152	7469	0.7083	0.7118	57.308	57.530
2	5	- 2	0.9152	57503	0.7084	0.7119	57.314	57.536
1	5	3	0.9131	57478	0.7117	0.7152	57.522	57.746
6	2	1	0.9124	36132	0.7126	0.7162	57.585	57.809
1	0	-12	0.9121	23	0.7132	0.7168	57.621	57.845
2	5	1	0.9107	1635623	0.7153	0.7189	57.753	57.979
2	0	-12	0.9096	61	0.7170	0.7206	57.861	58.088
4	4	2	0.9091	99971	0.7179	0.7214	57.915	58.142
4	2	7	0.9089	90076	0.7181	0.7217	57.932	58.160
4	0	-11	0.9089	73250	0.7182	0.7218	57.938	58.166
0	5	4	0.9075	615110	0.7203	0.7239	58.073	58.302
4	4	- 5	0.9068	132	0.7215	0.7251	58.149	58.378
1	5	- 4	0.9068	431382	0.7216	0.7252	58.154	58.383
6	1	3	0.9064	242302	0.7221	0.7257	58.186	58.416
1	3	-10	0.9055	205491	0.7237	0.7273	58.286	58.517
1	4	- 8	0.9051	143035	0.7243	0.7279	58.326	58.557
0	2	11	0.9044	491324	0.7254	0.7290	58.397	58.629
2	5	- 3	0.9036	239114	0.7267	0.7303	58.478	58.710

TABLE I CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
4	2	-10	0.9034	64737	0.7270	0.7306	58.502	58.735
5	1	6	0.9029	265242	0.7278	0.7314	58.554	58.787
3	4	- 7	0.9027	121908	0.7281	0.7317	58.568	58.801
5	2	5	0.9021	422428	0.7291	0.7327	58.632	58.866
5	0	-10	0.8994	26653	0.7334	0.7370	58.913	59.150
6	0	- 8	0.8993	2659	0.7336	0.7372	58.924	59.160
4	1	8	0.8992	31498	0.7338	0.7374	58.938	59.175
2	3	-10	0.8985	332560	0.7349	0.7386	59.012	59.249
6	2	- 6	0.8977	1206	0.7362	0.7398	59.094	59.332
5	3	3	0.8973	109674	0.7369	0.7405	59.139	59.378
0	4	8	0.8966	24760	0.7380	0.7416	59.209	59.448
2	5	2	0.8965	131971	0.7382	0.7419	59.227	59.466
1	1	-12	0.8962	56546	0.7387	0.7424	59.260	59.500
3	4	5	0.8961	227459	0.7388	0.7425	59.264	59.504
0	0	12	0.8943	97219	0.7418	0.7455	59.461	59.703
2	1	-12	0.8939	88892	0.7425	0.7462	59.508	59.750
2	4	- 8	0.8936	209904	0.7430	0.7467	59.540	59.782
4	1	-11	0.8932	71158	0.7437	0.7474	59.587	59.830
0	3	10	0.8925	284	0.7448	0.7485	59.657	59.900
3	2	-11	0.8906	3844	0.7480	0.7517	59.866	60.112
6	2	2	0.8891	53368	0.7505	0.7542	60.033	60.280
1	5	4	0.8886	108270	0.7515	0.7552	60.096	60.344
3	0	-12	0.8875	10698	0.7532	0.7569	60.212	60.461
6	0	4	0.8864	44669	0.7550	0.7588	60.335	60.585
2	5	- 4	0.8863	244	0.7552	0.7590	60.348	60.599
5	2	- 9	0.8857	545876	0.7563	0.7600	60.415	60.667
5	3	- 7	0.8857	8030	0.7563	0.7601	60.419	60.671
2	2	10	0.8855	6733	0.7566	0.7604	60.442	60.693
4	4	3	0.8844	327006	0.7585	0.7623	60.568	60.821
5	1	-10	0.8842	99997	0.7589	0.7627	60.594	60.847
6	1	- 8	0.8841	112196	0.7591	0.7628	60.604	60.858
7	0	- 3	0.8826	3917	0.7616	0.7653	60.770	61.025
7	0	- 2	0.8824	120274	0.7619	0.7657	60.795	61.050
4	4	- 6	0.8817	33135	0.7633	0.7670	60.885	61.141
4	3	6	0.8813	138052	0.7638	0.7676	60.922	61.179
1	5	- 5	0.8811	22068	0.7642	0.7680	60.950	61.207
3	2	9	0.8801	297839	0.7659	0.7697	61.062	61.320
0	5	5	0.8797	25163	0.7667	0.7705	61.117	61.376
0	1	12	0.8793	5635	0.7673	0.7711	61.160	61.419
2	0	11	0.8777	2661	0.7702	0.7741	61.357	61.618
2	5	3	0.8770	39607	0.7714	0.7753	61.440	61.702
7	0	- 4	0.8769	267105	0.7715	0.7753	61.443	61.705
4	3	- 9	0.8768	9470	0.7717	0.7755	61.455	61.718
7	0	- 1	0.8763	71952	0.7726	0.7764	61.519	61.782
3	0	10	0.8761	2300	0.7729	0.7767	61.539	61.802
3	5	- 1	0.8735	55606	0.7776	0.7815	61.863	62.130
2	4	7	0.8734	98957	0.7777	0.7816	61.870	62.137
3	3	-10	0.8729	340463	0.7786	0.7824	61.929	62.197
3	1	-12	0.8729	1850	0.7787	0.7826	61.939	62.207
2	3	9	0.8728	836	0.7789	0.7827	61.951	62.218
6	1	4	0.8718	269385	0.7806	0.7844	62.066	62.336
6	2	- 7	0.8717	9626	0.7808	0.7846	62.080	62.349
3	5	- 2	0.8711	201509	0.7819	0.7858	62.158	62.428
1	2	11	0.8707	60069	0.7826	0.7865	62.211	62.482
3	5	0	0.8701	150551	0.7837	0.7876	62.282	62.554
1	4	8	0.8699	152680	0.7840	0.7879	62.306	62.578
7	1	- 3	0.8682	70313	0.7871	0.7910	62.520	62.794
7	1	- 2	0.8680	134289	0.7874	0.7913	62.546	62.820

TABLE I CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
5	0	7	0.8677	49370	0.7879	0.7919	62.581	62.856
6	3	- 2	0.8674	51482	0.7885	0.7924	62.619	62.895
5	3	4	0.8657	39565	0.7916	0.7955	62.838	63.117
7	0	- 5	0.8657	34761	0.7917	0.7957	62.846	63.125
6	3	- 3	0.8656	5480	0.7919	0.7958	62.856	63.134
7	0	0	0.8647	17194	0.7936	0.7975	62.977	63.257
3	4	- 8	0.8643	30603	0.7941	0.7981	63.017	63.297
2	5	- 5	0.8643	136272	0.7941	0.7981	63.018	63.298
3	3	8	0.8640	47849	0.7947	0.7986	63.056	63.337
6	3	- 1	0.8636	220040	0.7954	0.7994	63.109	63.391
2	1	11	0.8635	3833	0.7957	0.7997	63.131	63.413
5	4	- 2	0.8631	12183	0.7964	0.8004	63.181	63.462
3	5	- 3	0.8631	17831	0.7964	0.8004	63.181	63.463
7	1	- 4	0.8628	1360290	0.7970	0.8010	63.221	63.504
7	1	- 1	0.8622	346881	0.7981	0.8021	63.300	63.584
1	3	10	0.8621	8433	0.7983	0.8023	63.314	63.598
3	1	10	0.8620	26248	0.7984	0.8024	63.320	63.605
6	2	3	0.8619	131481	0.7986	0.8026	63.338	63.623
6	0	- 9	0.8618	1257	0.7987	0.8027	63.345	63.629
5	4	- 1	0.8614	573127	0.7996	0.8036	63.409	63.694
3	5	1	0.8612	8700	0.8000	0.8040	63.436	63.721
1	5	5	0.8603	26050	0.8015	0.8055	63.546	63.833
1	0	12	0.8597	101437	0.8028	0.8068	63.636	63.924
5	4	- 3	0.8593	53589	0.8035	0.8075	63.688	63.976
5	2	6	0.8588	56491	0.8044	0.8084	63.750	64.040
6	3	- 4	0.8582	104402	0.8055	0.8095	63.832	64.123
3	4	6	0.8576	25775	0.8067	0.8107	63.915	64.206
1	4	- 9	0.8568	4335	0.8081	0.8121	64.022	64.315
4	4	4	0.8561	20451	0.8095	0.8135	64.124	64.418
4	2	8	0.8557	13771	0.8103	0.8144	64.182	64.477
4	0	9	0.8554	231035	0.8108	0.8148	64.214	64.510
6	3	0	0.8544	26212	0.8127	0.8167	64.354	64.652
5	4	0	0.8542	115427	0.8131	0.8172	64.388	64.686
5	1	7	0.8540	9581	0.8135	0.8175	64.412	64.710
5	3	- 8	0.8533	351673	0.8149	0.8190	64.519	64.819
2	5	4	0.8532	409340	0.8150	0.8190	64.523	64.823
1	2	-12	0.8531	42	0.8153	0.8193	64.546	64.846
4	4	- 7	0.8531	40079	0.8153	0.8193	64.547	64.847
1	5	- 6	0.8521	21386	0.8172	0.8212	64.684	64.986
7	1	- 5	0.8520	5059	0.8172	0.8213	64.690	64.992
2	2	-12	0.8511	112	0.8191	0.8231	64.827	65.131
7	1	0	0.8511	463308	0.8191	0.8232	64.828	65.132
4	2	-11	0.8505	135086	0.8203	0.8244	64.917	65.333
5	4	- 4	0.8501	22869	0.8209	0.8250	64.964	65.270
3	5	- 4	0.8499	10286	0.8213	0.8254	64.993	65.299
4	0	-12	0.8497	6712	0.8218	0.8259	65.028	65.335
7	0	- 6	0.8494	115839	0.8223	0.8263	65.065	65.372
5	0	-11	0.8491	9794	0.8229	0.8270	65.114	65.422
2	4	- 9	0.8490	30573	0.8231	0.8272	65.129	65.438
0	5	6	0.8489	154334	0.8234	0.8274	65.147	65.456
6	0	5	0.8486	40864	0.8238	0.8279	65.180	65.489
6	1	- 9	0.8484	281711	0.8243	0.8284	65.215	65.524
7	0	1	0.8481	51638	0.8249	0.8289	65.260	65.570
0	4	9	0.8478	34	0.8255	0.8296	65.311	65.621
3	5	2	0.8472	12988	0.8267	0.8308	65.396	65.709
1	3	-11	0.8464	166265	0.8281	0.8322	65.506	65.820
1	1	12	0.8463	330838	0.8283	0.8324	65.522	65.836
6	3	- 5	0.8457	17100	0.8295	0.8336	65.611	65.926

TABLE I CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
5	2	-10	0.8427	49169	0.8355	0.8396	66.069	66.392
6	2	- 8	0.8426	4906	0.8356	0.8398	66.082	66.404
2	3	-11	0.8426	38919	0.8356	0.8398	66.083	66.405
4	1	9	0.8423	1269378	0.8363	0.8404	66.133	66.456
5	4	1	0.8419	324438	0.8370	0.8411	66.185	66.509
1	0	-13	0.8413	5004	0.8383	0.8424	66.287	66.612
2	0	-13	0.8413	52503	0.8383	0.8425	66.292	66.617
6	3	1	0.8403	3577	0.8402	0.8444	66.439	66.767
2	5	- 6	0.8387	120035	0.8433	0.8475	66.684	67.016
0	2	12	0.8385	179372	0.8439	0.8481	66.726	67.059
4	3	7	0.8376	144850	0.8457	0.8499	66.871	67.206
4	1	-12	0.8368	68509	0.8473	0.8515	66.997	67.334
7	1	- 6	0.8366	105062	0.8478	0.8520	67.035	67.373
5	1	-11	0.8362	162028	0.8484	0.8526	67.088	67.427
5	4	- 5	0.8361	2167943	0.8486	0.8528	67.103	67.441
6	1	5	0.8358	38410	0.8493	0.8535	67.159	67.498
7	1	1	0.8353	3622	0.8504	0.8546	67.243	67.584
0	3	11	0.8340	277967	0.8530	0.8572	67.453	67.798
4	3	-10	0.8332	43180	0.8546	0.8589	67.586	67.933
3	2	-12	0.8329	19746	0.8553	0.8595	67.639	67.987
3	5	- 5	0.8323	114309	0.8565	0.8607	67.736	68.086
5	3	5	0.8322	5544	0.8566	0.8609	67.750	68.100
6	2	4	0.8320	82462	0.8571	0.8614	67.789	68.140
1	5	6	0.8296	74348	0.8619	0.8662	68.188	68.546
2	4	8	0.8294	1905641	0.8625	0.8667	68.231	68.589
7	0	- 7	0.8291	1606	0.8631	0.8674	68.284	68.644
7	2	- 3	0.8288	7238	0.8636	0.8679	68.327	68.688
3	5	3	0.8288	13035	0.8636	0.8679	68.328	68.688
6	3	- 6	0.8288	7409	0.8638	0.8680	68.339	68.700
1	1	-13	0.8288	5489	0.8638	0.8681	68.342	68.702
2	1	-13	0.8287	11015	0.8638	0.8681	68.347	68.707
7	2	- 2	0.8287	222243	0.8640	0.8683	68.358	68.719
7	0	2	0.8275	129828	0.8664	0.8707	68.564	68.929
2	5	5	0.8264	504440	0.8688	0.8731	68.763	69.132
3	4	- 9	0.8256	625620	0.8705	0.8748	68.909	69.280
0	0	13	0.8255	43879	0.8706	0.8749	68.917	69.288
3	0	-13	0.8254	1106215	0.8708	0.8751	68.933	69.305
4	4	5	0.8254	1045037	0.8708	0.8751	68.936	69.308
5	4	2	0.8253	661	0.8711	0.8754	68.957	69.330
2	2	11	0.8247	4924	0.8723	0.8766	69.062	69.436
7	2	- 4	0.8241	494194	0.8735	0.8779	69.170	69.546
6	0	-10	0.8238	30053	0.8742	0.8786	69.228	69.606
7	2	- 1	0.8236	133145	0.8747	0.8790	69.266	69.645
3	2	10	0.8235	4257	0.8749	0.8793	69.291	69.670
1	4	9	0.8233	8340	0.8753	0.8797	69.323	69.702
3	3	-11	0.8232	1562	0.8756	0.8799	69.343	69.723
4	4	- 8	0.8222	228289	0.8776	0.8820	69.524	69.908
6	3	2	0.8220	4191	0.8781	0.8824	69.563	69.948
1	5	- 7	0.8209	436570	0.8804	0.8848	69.767	70.156
5	3	- 9	0.8193	599040	0.8838	0.8882	70.072	70.468
5	0	8	0.8193	59918	0.8839	0.8883	70.077	70.473
2	3	10	0.8191	862	0.8842	0.8886	70.107	70.504
3	4	7	0.8189	160	0.8848	0.8892	70.161	70.559
5	4	- 6	0.8180	61698	0.8866	0.8910	70.323	70.724
4	5	- 1	0.8177	468250	0.8873	0.8917	70.380	70.782
4	5	- 2	0.8175	784827	0.8878	0.8922	70.427	70.831
7	1	- 7	0.8171	58953	0.8886	0.8930	70.504	70.909
5	2	7	0.8165	91545	0.8900	0.8944	70.631	71.040

TABLE I CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
0	5	7	0.8163	932223	0.8903	0.8947	70.660	71.069
7	1	2	0.8156	260818	0.8920	0.8964	70.810	71.222
3	0	11	0.8154	92586	0.8923	0.8967	70.838	71.251
3	3	9	0.8149	2680	0.8935	0.8979	70.949	71.364
7	2	- 5	0.8147	64489	0.8938	0.8982	70.979	71.396
7	2	0	0.8139	31908	0.8956	0.9001	71.152	71.573
0	1	13	0.8137	86364	0.8961	0.9006	71.197	71.619
2	0	12	0.8137	239380	0.8962	0.9006	71.203	71.625
3	1	-13	0.8136	6198	0.8963	0.9008	71.215	71.637
4	5	0	0.8133	70952	0.8970	0.9015	71.283	71.707
4	5	- 3	0.8126	11659	0.8986	0.9031	71.432	71.860
6	1	-10	0.8120	168749	0.8997	0.9042	71.540	71.971
6	2	- 9	0.8116	2334	0.9008	0.9053	71.642	72.075
3	5	- 6	0.8111	1126573	0.9019	0.9064	71.750	72.186
1	4	-10	0.8109	880959	0.9023	0.9068	71.783	72.220
2	5	- 7	0.8106	50042	0.9028	0.9073	71.839	72.277
6	0	6	0.8106	22041	0.9029	0.9073	71.840	72.278
1	2	12	0.8097	188467	0.9049	0.9094	72.034	72.478
6	3	- 7	0.8082	5663	0.9083	0.9128	72.376	72.829
5	1	8	0.8077	106582	0.9094	0.9139	72.482	72.938
1	3	11	0.8073	749558	0.9102	0.9147	72.565	73.023
3	5	4	0.8071	387748	0.9109	0.9154	72.630	73.090
4	2	9	0.8062	429711	0.9128	0.9174	72.828	73.294
2	4	-10	0.8059	78596	0.9135	0.9181	72.899	73.367
7	0	- 8	0.8056	646993	0.9142	0.9188	72.972	73.442
5	4	3	0.8050	20404	0.9155	0.9200	73.100	73.574
4	5	1	0.8043	32362	0.9171	0.9217	73.267	73.747
3	1	11	0.8040	10057	0.9178	0.9223	73.337	73.818
7	0	3	0.8038	528524	0.9183	0.9229	73.394	73.877
0	6	0	0.8037	1249247	0.9186	0.9231	73.421	73.905
4	5	- 4	0.8032	84740	0.9197	0.9243	73.542	74.030
2	1	12	0.8023	284372	0.9217	0.9263	73.750	74.244
5	0	-12	0.8019	171209	0.9227	0.9273	73.862	74.360
0	4	10	0.8016	254658	0.9234	0.9280	73.933	74.434
4	0	10	0.8015	8828	0.9236	0.9282	73.952	74.453
0	6	1	0.8014	483	0.9237	0.9283	73.968	74.471
4	2	-12	0.8014	12502	0.9238	0.9284	73.980	74.482
7	2	- 6	0.8012	215784	0.9243	0.9289	74.032	74.536
5	2	-11	0.8009	18246	0.9250	0.9296	74.104	74.611
6	2	5	0.8005	76137	0.9259	0.9305	74.200	74.710
6	3	3	0.8003	208164	0.9262	0.9308	74.240	74.752
7	2	1	0.8000	96224	0.9269	0.9315	74.316	74.830
6	1	6	0.7994	829674	0.9284	0.9330	74.477	74.997
5	3	6	0.7979	228071	0.9320	0.9366	74.880	75.415
1	5	7	0.7976	1412	0.9326	0.9373	74.958	75.496
2	5	6	0.7975	2	0.9329	0.9376	74.990	75.530
1	6	0	0.7967	403	0.9348	0.9394	75.203	75.751
5	4	- 7	0.7966	74556	0.9349	0.9396	75.220	75.769
1	0	13	0.7964	45309	0.9353	0.9400	75.266	75.817
4	0	-13	0.7963	49457	0.9356	0.9403	75.302	75.854
1	6	- 1	0.7961	351	0.9362	0.9408	75.369	75.923
4	3	8	0.7953	27108	0.9379	0.9426	75.571	76.134
0	6	2	0.7948	83	0.9392	0.9438	75.723	76.293
7	1	- 8	0.7946	128277	0.9398	0.9444	75.792	76.364
1	2	-13	0.7943	9341	0.9403	0.9450	75.861	76.437
2	2	-13	0.7943	98011	0.9404	0.9451	75.869	76.445
4	4	6	0.7934	13575	0.9424	0.9471	76.116	76.703
1	3	-12	0.7933	48702	0.9429	0.9475	76.170	76.760

TABLE I CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
1	6	1	0.7929	1117	0.9437	0.9483	76.269	76.863
7	1	3	0.7928	71393	0.9438	0.9485	76.291	76.886
2	3	-12	0.7917	76606	0.9467	0.9514	76.646	77.258
4	5	2	0.7913	594879	0.9475	0.9522	76.754	77.371
4	3	-11	0.7912	61334	0.9479	0.9526	76.801	77.421
1	6	- 2	0.7911	3042	0.9479	0.9526	76.808	77.428
5	1	-12	0.7910	1035295	0.9483	0.9530	76.852	77.474
4	1	10	0.7906	33922	0.9491	0.9538	76.960	77.589
4	4	- 9	0.7901	137657	0.9503	0.9550	77.116	77.752
4	5	- 5	0.7898	42288	0.9512	0.9559	77.233	77.876
1	5	- 8	0.7886	69297	0.9539	0.9587	77.606	78.270
3	4	-10	0.7873	9797	0.9572	0.9619	78.058	78.750
2	4	9	0.7872	50096	0.9575	0.9622	78.102	78.796
3	5	- 7	0.7871	131253	0.9577	0.9625	78.131	78.827
6	0	-11	0.7861	58	0.9600	0.9648	78.464	79.183
1	1	13	0.7858	109	0.9608	0.9656	78.585	79.312
4	1	-13	0.7857	47324	0.9611	0.9659	78.631	79.361
1	6	2	0.7850	2349	0.9628	0.9676	78.887	79.635
5	3	-10	0.7849	86389	0.9630	0.9678	78.917	79.667
6	3	- 8	0.7848	96930	0.9632	0.9680	78.941	79.694
0	6	3	0.7841	4834	0.9649	0.9697	79.209	79.981
7	2	- 7	0.7840	3006	0.9652	0.9700	79.243	80.018
6	4	- 2	0.7832	78421	0.9671	0.9719	79.551	80.351
0	5	8	0.7830	148401	0.9676	0.9724	79.630	80.437
3	5	5	0.7827	54825	0.9684	0.9732	79.767	80.586
7	2	2	0.7827	242915	0.9685	0.9733	79.777	80.597
1	6	- 3	0.7821	14	0.9699	0.9748	80.016	80.858
2	0	-14	0.7821	29678	0.9700	0.9748	80.018	80.861
5	4	4	0.7820	11554	0.9702	0.9750	80.062	80.909
6	4	- 3	0.7819	48570	0.9705	0.9753	80.105	80.955
0	3	12	0.7815	4874	0.9715	0.9763	80.273	81.140
2	5	- 8	0.7810	13778	0.9727	0.9775	80.482	81.370
0	2	13	0.7810	82105	0.9727	0.9775	80.483	81.371
3	2	-13	0.7809	2069914	0.9728	0.9777	80.516	81.408
3	4	8	0.7808	69295	0.9733	0.9781	80.594	81.495
1	0	-14	0.7806	187152	0.9736	0.9785	80.654	81.561
6	4	- 1	0.7804	153018	0.9740	0.9789	80.729	81.645
7	0	- 9	0.7798	35610	0.9757	0.9805	81.030	81.980
6	2	-10	0.7796	56237	0.9763	0.9811	81.142	82.106
1	4	10	0.7793	14	0.9769	0.9818	81.263	82.242
7	0	4	0.7779	53969	0.9805	0.9854	81.975	83.055
2	6	- 1	0.7777	30997	0.9810	0.9859	82.087	83.185
3	3	-12	0.7769	1603	0.9828	0.9877	82.473	83.638
2	6	0	0.7767	9836	0.9834	0.9882	82.589	83.776
6	4	- 4	0.7764	43845	0.9841	0.9890	82.763	83.985
6	3	4	0.7762	233476	0.9847	0.9896	82.891	84.139
6	1	-11	0.7759	17432	0.9855	0.9904	83.090	84.383
5	2	8	0.7757	112137	0.9859	0.9908	83.192	84.509
4	5	3	0.7748	45647	0.9882	0.9931	83.759	85.232
2	6	- 2	0.7745	37625	0.9890	0.9939	83.990	85.538
5	0	9	0.7741	36395	0.9901	0.9950	84.296	85.960
7	3	- 3	0.7737	60999	0.9912	0.9961	84.616	86.428
6	4	0	0.7736	447787	0.9913	0.9962	84.645	86.472
7	3	- 2	0.7735	116508	0.9916	0.9965	84.731	86.604
6	0	7	0.7733	80102	0.9922	0.9972	84.941	86.941
1	6	3	0.7732	94074	0.9923	0.9973	84.978	87.002
4	5	- 6	0.7730	11081	0.9929	0.9978	85.166	87.330
8	0	- 3	0.7729	29193	0.9933	0.9982	85.300	87.580

TABLE I CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
5	4	- 8	0.7728	1447	0.9935	0.9985	85.387	87.755
3	2	11	0.7724	173297	0.9943	0.9993	85.680	88.445
2	1	-14	0.7720	13705	0.9955		86.140	
2	6	1	0.7718	390267	0.9960		86.364	
8	0	- 2	0.7713	21562	0.9974		87.071	
2	2	12	0.7709	448080	0.9982		87.595	
3	0	-14	0.7708	951	0.9987		87.915	
1	1	-14	0.7706	1268667	0.9991		88.315	
8	0	- 4	0.7705	23578	0.9995		88.699	
2	3	11	0.7703	3329	0.9999		89.349	

TABLE II

CALCULATED POWDER PATTERN OF ALPHA PLUTONIUM
FOR NICKEL K ALPHA RADIATION

H	K	L	D	I	SIN SQ THETA	THETA
0	0	1	10.7317	853	0.0060	4.433
1	0	0	6.0526	678	0.0188	7.878
1	0	- 1	5.8037	588	0.0204	8.218
0	0	2	5.3659	138	0.0239	8.894
1	0	1	4.8638	1825	0.0291	9.820
1	0	- 2	4.4971	4894	0.0340	10.630
0	1	1	4.3984	8995	0.0356	10.871
1	1	0	3.7714	4393	0.0484	12.707
1	1	- 1	3.7089	16657	0.0500	12.925
1	0	2	3.6610	3608	0.0513	13.097
0	1	2	3.5866	28226	0.0535	13.373
0	0	3	3.5772	7381	0.0538	13.409
1	1	1	3.4244	13760	0.0587	14.020
1	0	- 3	3.3987	22	0.0596	14.127
1	1	- 2	3.2888	18723	0.0636	14.610
2	0	- 1	3.0818	45422	0.0725	15.615
2	0	0	3.0263	14335	0.0751	15.910
1	1	2	2.9158	258705	0.0809	16.529
2	0	- 2	2.9018	54127	0.0817	16.611
0	1	3	2.8730	440708	0.0834	16.783
1	0	3	2.8362	134348	0.0856	17.007
1	1	- 3	2.7780	1098981	0.0892	17.374
2	0	1	2.7687	552974	0.0898	17.435
0	0	4	2.6829	896016	0.0956	18.011
1	0	- 4	2.6626	1905	0.0971	18.153
2	1	- 1	2.5968	137509	0.1021	18.630
2	0	- 3	2.5855	1422436	0.1029	18.714
2	1	0	2.5633	117179	0.1047	18.883
2	1	- 2	2.4863	125975	0.1113	19.490
1	1	3	2.4447	125261	0.1151	19.836
2	0	2	2.4319	13218	0.1164	19.945
0	2	0	2.4110	3158824	0.1184	20.125
2	1	1	2.4010	3544270	0.1194	20.212
0	2	1	2.3524	1211	0.1244	20.649
0	1	4	2.3445	1322720	0.1252	20.722
1	1	- 4	2.3308	925878	0.1267	20.849
1	0	4	2.2858	196356	0.1317	21.279
2	1	- 3	2.2786	509393	0.1325	21.350
2	0	- 4	2.2486	107848	0.1361	21.650
1	2	0	2.2398	992	0.1372	21.738
1	2	- 1	2.2265	864	0.1388	21.875
0	2	2	2.1992	203	0.1423	22.161
2	1	2	2.1714	276566	0.1460	22.460
1	0	- 5	2.1672	122606	0.1465	22.506
1	2	1	2.1602	2713	0.1475	22.583
0	0	5	2.1463	13540	0.1494	22.737
1	2	- 2	2.1249	7340	0.1524	22.980
2	0	3	2.1078	23796	0.1549	23.177
1	1	4	2.0655	222898	0.1613	23.680
3	0	- 1	2.0607	62710	0.1621	23.738
2	1	- 4	2.0379	500	0.1657	24.021
3	0	- 2	2.0300	639225	0.1670	24.120
3	0	0	2.0175	57115	0.1691	24.279
1	2	2	2.0136	5547	0.1697	24.330
0	2	3	1.9993	11379	0.1722	24.515

TABLE II CONTINUED

H	K	L	D	I	SIN SQ THETA	THETA
1	1	- 5	1.9767	44718	0.1761	24.813
1	2	- 3	1.9665	34	0.1780	24.952
0	1	5	1.9609	50847	0.1790	25.028
2	0	- 5	1.9487	150534	0.1812	25.196
3	0	- 3	1.9346	134068	0.1839	25.392
2	1	3	1.9313	79615	0.1845	25.437
3	0	1	1.9131	76027	0.1880	25.698
1	0	5	1.9041	227992	0.1898	25.828
2	2	- 1	1.8989	71503	0.1908	25.903
3	1	- 1	1.8949	111030	0.1917	25.962
2	2	0	1.8857	22626	0.1935	26.099
3	1	- 2	1.8710	400538	0.1966	26.320
3	1	0	1.8612	298686	0.1987	26.469
2	2	- 2	1.8544	85958	0.2001	26.573
1	2	3	1.8370	214082	0.2039	26.846
2	0	4	1.8305	466841	0.2054	26.949
1	0	- 6	1.8193	54802	0.2079	27.128
2	2	1	1.8182	884324	0.2082	27.145
2	1	- 5	1.8067	267446	0.2108	27.333
3	0	- 4	1.7986	10881	0.2127	27.465
3	1	- 3	1.7955	34915	0.2135	27.518
0	2	4	1.7933	1439713	0.2140	27.554
0	0	6	1.7886	152719	0.2151	27.633
1	2	- 4	1.7872	3065	0.2155	27.657
3	1	1	1.7782	16975	0.2176	27.808
3	0	2	1.7729	7303	0.2189	27.899
1	1	5	1.7710	50746	0.2194	27.931
2	2	- 3	1.7633	2298419	0.2213	28.064
2	2	2	1.7122	21543	0.2347	28.980
2	1	4	1.7113	787058	0.2350	28.996
1	1	- 6	1.7022	41035	0.2375	29.167
2	0	- 6	1.6994	70985	0.2383	29.219
3	1	- 4	1.6852	19660	0.2423	29.489
0	1	6	1.6770	294403	0.2447	29.649
3	1	2	1.6640	24701	0.2485	29.903
1	2	4	1.6588	322630	0.2501	30.006
3	0	- 5	1.6476	0	0.2535	30.231
2	2	- 4	1.6444	177642	0.2545	30.297
1	0	6	1.6273	13715	0.2599	30.649
3	0	3	1.6213	156653	0.2618	30.775
1	2	- 5	1.6118	203077	0.2649	30.977
0	2	5	1.6031	22460	0.2678	31.162
2	0	5	1.6030	15624	0.2678	31.165
2	1	- 6	1.6028	225228	0.2679	31.170
0	3	1	1.5896	5622	0.2723	31.458
2	2	3	1.5869	39582	0.2733	31.518
3	2	- 1	1.5665	104674	0.2804	31.976
1	0	- 7	1.5642	61442	0.2813	32.029
3	1	- 5	1.5591	212252	0.2831	32.146
1	3	0	1.5535	2814	0.2852	32.276
3	2	- 2	1.5529	1069458	0.2854	32.290
1	3	- 1	1.5490	10700	0.2868	32.380
3	2	0	1.5473	95648	0.2875	32.422
4	0	- 1	1.5425	13183	0.2892	32.534
1	1	6	1.5419	137388	0.2895	32.549
4	0	- 2	1.5409	7745	0.2898	32.572
0	3	2	1.5397	18236	0.2903	32.600
3	1	3	1.5367	24053	0.2914	32.671

TABLE II CONTINUED

H	K	L	D	I	SIN SQ THETA	THETA
0	0	7	1.5331	108370	0.2928	32.758
1	3	1	1.5262	8962	0.2955	32.926
2	1	5	1.5211	926631	0.2974	33.049
2	2	- 5	1.5155	253224	0.2996	33.187
1	3	- 2	1.5136	12283	0.3004	33.236
4	0	0	1.5131	61453	0.3006	33.246
3	2	- 3	1.5089	225721	0.3023	33.352
4	0	- 3	1.5086	32740	0.3024	33.360
3	0	- 6	1.4990	192995	0.3062	33.600
3	2	1	1.4986	128173	0.3064	33.611
2	0	- 7	1.4964	83059	0.3073	33.667
1	2	5	1.4943	384584	0.3082	33.722
1	1	- 7	1.4879	794067	0.3109	33.887
3	0	4	1.4743	28981	0.3166	34.242
1	3	2	1.4717	173641	0.3177	34.309
4	1	- 1	1.4692	846808	0.3188	34.377
4	1	- 2	1.4678	1418703	0.3194	34.415
0	3	3	1.4661	296663	0.3201	34.459
0	1	7	1.4610	1681575	0.3224	34.596
2	2	4	1.4579	791200	0.3238	34.681
4	0	1	1.4577	50534	0.3239	34.686
1	3	- 3	1.4530	744745	0.3259	34.814
1	2	- 6	1.4522	92946	0.3263	34.836
4	0	- 4	1.4509	27036	0.3269	34.872
4	1	0	1.4437	127281	0.3302	35.071
3	2	- 4	1.4417	18480	0.3311	35.129
4	1	- 3	1.4398	20888	0.3320	35.182
0	2	6	1.4365	259544	0.3335	35.274
3	1	- 6	1.4315	2012886	0.3358	35.417
2	1	- 7	1.4292	89344	0.3369	35.482
3	2	2	1.4283	12425	0.3373	35.507
2	3	- 1	1.4251	94493	0.3388	35.598
2	3	0	1.4195	80762	0.3415	35.760
1	0	7	1.4188	34992	0.3419	35.782
2	0	6	1.4181	28852	0.3422	35.802
3	1	4	1.4098	688417	0.3462	36.044
2	3	- 2	1.4060	87425	0.3481	36.157
1	3	3	1.3984	87235	0.3519	36.386
4	1	1	1.3953	57211	0.3535	36.478
2	3	1	1.3901	2477630	0.3561	36.640
4	1	- 4	1.3894	149541	0.3565	36.660
2	2	- 6	1.3890	121606	0.3567	36.672
4	0	2	1.3843	75617	0.3591	36.816
0	3	4	1.3788	929317	0.3620	36.988
4	0	- 5	1.3762	100	0.3634	37.070
1	3	- 4	1.3760	651311	0.3634	37.075
1	0	- 8	1.3702	107828	0.3666	37.261
2	3	- 3	1.3651	360077	0.3693	37.424
3	0	- 7	1.3621	91723	0.3709	37.520
1	1	7	1.3611	2470	0.3715	37.553
2	1	6	1.3605	4	0.3718	37.572
3	2	- 5	1.3603	0	0.3719	37.577
1	2	6	1.3488	23642	0.3783	37.954
3	2	3	1.3454	270165	0.3802	38.068
0	0	8	1.3415	18536	0.3824	38.199
2	3	2	1.3409	197566	0.3827	38.218
3	0	5	1.3398	170209	0.3834	38.257
2	2	5	1.3349	26983	0.3862	38.422

TABLE II CONTINUED

H	K	L	D	I	SIN SQ THETA	THETA
2	0	- 8	1.3313	156740	0.3883	38.545
4	1	2	1.3306	1030598	0.3887	38.569
4	1	- 5	1.3234	73089	0.3930	38.819
1	1	- 8	1.3180	119555	0.3962	39.007
1	3	4	1.3148	161020	0.3981	39.119
1	2	- 7	1.3122	106441	0.3997	39.211
3	1	- 7	1.3108	225898	0.4005	39.263
2	3	- 4	1.3076	362	0.4025	39.376
4	0	3	1.3014	242323	0.4063	39.599
4	2	- 1	1.2994	22878	0.4076	39.676
4	2	- 2	1.2984	13443	0.4082	39.711
0	2	7	1.2937	188216	0.4112	39.884
4	0	- 6	1.2928	24498	0.4118	39.918
0	1	8	1.2924	253807	0.4120	39.932
1	3	- 5	1.2910	32617	0.4129	39.983
3	1	5	1.2909	93716	0.4130	39.989
0	3	5	1.2866	37146	0.4158	40.150
2	1	- 8	1.2833	23490	0.4179	40.274
4	2	0	1.2816	106909	0.4190	40.336
4	2	- 3	1.2789	56978	0.4208	40.441
2	3	3	1.2781	58337	0.4213	40.470
3	2	- 6	1.2730	336147	0.4246	40.665
2	2	- 7	1.2714	144700	0.4257	40.727
3	3	- 1	1.2674	81663	0.4284	40.885
2	0	7	1.2672	72660	0.4285	40.892
3	3	- 2	1.2602	295343	0.4334	41.170
3	2	4	1.2578	50585	0.4350	41.266
3	3	0	1.2571	220471	0.4354	41.290
1	0	8	1.2566	111777	0.4358	41.314
4	1	3	1.2565	77074	0.4359	41.317
4	1	- 6	1.2487	18659	0.4414	41.633
4	2	1	1.2474	88353	0.4422	41.683
4	2	- 4	1.2432	47317	0.4453	41.859
3	0	- 8	1.2400	22320	0.4476	41.991
2	3	- 5	1.2400	198778	0.4476	41.992
5	0	- 2	1.2363	8879	0.4502	42.144
3	3	- 3	1.2363	25992	0.4502	42.145
5	0	- 1	1.2312	417303	0.4540	42.358
3	3	1	1.2306	12668	0.4544	42.384
1	3	5	1.2282	37912	0.4562	42.486
2	1	7	1.2256	114865	0.4581	42.599
5	0	- 3	1.2252	38973	0.4585	42.618
1	2	7	1.2228	61511	0.4603	42.721
2	2	6	1.2223	50721	0.4606	42.740
3	0	6	1.2203	18727	0.4621	42.827
1	0	- 9	1.2181	3148	0.4638	42.925
1	1	8	1.2160	252123	0.4654	43.018
4	0	4	1.2159	14846	0.4654	43.018
5	0	0	1.2105	83702	0.4696	43.259
2	3	4	1.2078	593348	0.4718	43.381
4	0	- 7	1.2073	29044	0.4721	43.402
0	4	0	1.2055	1944792	0.4735	43.484
1	3	- 6	1.2046	30980	0.4743	43.526
3	1	- 8	1.2009	5067	0.4772	43.692
4	2	2	1.2005	133424	0.4775	43.710
5	0	- 4	1.1991	16546	0.4786	43.776
3	3	- 4	1.1985	14882	0.4791	43.801
0	4	1	1.1980	750	0.4795	43.826

TABLE II CONTINUED

H	K	L	D	I	SIN SQ THETA	THETA
5	1	- 2	1.1976	17435	0.4798	43.844
2	0	- 9	1.1959	22105	0.4812	43.923
0	3	6	1.1955	223160	0.4815	43.939
4	2	- 5	1.1952	176	0.4817	43.954
5	1	- 1	1.1930	496283	0.4836	44.058
0	0	9	1.1924	24	0.4840	44.083
1	2	- 8	1.1912	190564	0.4850	44.138
3	3	2	1.1908	18762	0.4853	44.158
5	1	- 3	1.1874	21827	0.4881	44.316
3	2	- 7	1.1859	162253	0.4893	44.388
3	1	6	1.1830	502	0.4917	44.525
1	4	0	1.1823	623	0.4923	44.561
1	1	- 9	1.1810	36496	0.4934	44.623
1	4	- 1	1.1803	543	0.4940	44.655
4	1	4	1.1790	102441	0.4950	44.716
5	0	1	1.1764	233643	0.4973	44.843
0	4	2	1.1762	128	0.4974	44.854
5	1	0	1.1741	990	0.4992	44.956
0	2	8	1.1722	32868	0.5008	45.046
4	1	- 7	1.1712	143721	0.5017	45.099
3	2	5	1.1711	301872	0.5018	45.102
1	4	1	1.1701	1721	0.5026	45.151
2	3	- 6	1.1677	172574	0.5047	45.267
2	2	- 8	1.1654	278265	0.5067	45.382
1	4	- 2	1.1644	4678	0.5076	45.434
5	1	- 4	1.1636	23763	0.5082	45.472
5	0	- 5	1.1607	1556120	0.5108	45.617
2	1	- 9	1.1607	714338	0.5108	45.619
0	1	9	1.1575	95433	0.5136	45.779
3	3	- 5	1.1505	163702	0.5199	46.139
4	2	3	1.1452	431770	0.5247	46.415
1	4	2	1.1450	3591	0.5249	46.427
1	3	6	1.1436	106246	0.5262	46.504
2	0	8	1.1429	1361343	0.5268	46.538
5	1	1	1.1429	242847	0.5269	46.539
0	4	3	1.1424	7382	0.5273	46.566
3	3	3	1.1415	18616	0.5282	46.615
4	2	- 6	1.1393	43698	0.5302	46.729
1	4	- 3	1.1362	22	0.5331	46.899
2	3	5	1.1350	718949	0.5342	46.960
3	0	- 9	1.1329	445535	0.5362	47.074
4	0	5	1.1325	744132	0.5365	47.095
5	0	2	1.1322	470	0.5368	47.112
5	1	- 5	1.1285	31896	0.5404	47.316
1	0	9	1.1271	5928	0.5417	47.395
4	0	- 8	1.1243	162131	0.5444	47.549
2	4	- 1	1.1227	47030	0.5460	47.639
2	2	7	1.1217	130032	0.5469	47.693
1	3	- 7	1.1210	619451	0.5476	47.733
2	4	0	1.1199	14910	0.5487	47.794
3	0	7	1.1158	113	0.5528	48.029
1	2	8	1.1143	200315	0.5542	48.113
5	0	- 6	1.1137	43668	0.5549	48.149
2	4	- 2	1.1133	56906	0.5553	48.173
4	3	- 1	1.1129	662672	0.5556	48.192
4	3	- 2	1.1123	1110474	0.5562	48.227
2	1	8	1.1121	15622	0.5564	48.240
1	4	3	1.1094	142100	0.5591	48.394

TABLE II CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
0	3	7	1.1094	1317761	0.5592		48.397	
2	4	1	1.1053	588671	0.5625	0.5651	48.588	48.739
3	1	- 9	1.1029	452427	0.5649	0.5675	48.729	48.880
3	2	- 8	1.1027	40053	0.5651	0.5677	48.740	48.892
4	1	5	1.1025	203764	0.5653	0.5679	48.750	48.902
5	1	2	1.1022	771011	0.5656	0.5682	48.767	48.919
4	3	0	1.1017	100045	0.5661	0.5687	48.796	48.948
5	2	- 2	1.1001	15936	0.5677	0.5704	48.894	49.046
4	3	- 3	1.1000	16430	0.5679	0.5705	48.901	49.054
0	4	4	1.0996	962125	0.5683	0.5709	48.924	49.077
1	4	- 4	1.0982	2050	0.5697	0.5724	49.009	49.162
1	1	9	1.0975	67224	0.5705	0.5731	49.051	49.204
5	2	- 1	1.0965	749121	0.5715	0.5741	49.109	49.263
3	3	- 6	1.0963	1585620	0.5717	0.5744	49.124	49.278
1	0	-10	1.0959	619882	0.5721	0.5748	49.147	49.302
2	3	- 7	1.0952	70408	0.5728	0.5755	49.186	49.340
4	1	- 8	1.0949	99090	0.5731	0.5758	49.206	49.361
2	4	- 3	1.0926	1543386	0.5756	0.5783	49.348	49.503
5	2	- 3	1.0922	69981	0.5760	0.5786	49.369	49.525
3	2	6	1.0888	33634	0.5796	0.5823	49.580	49.737
1	2	- 9	1.0872	5655	0.5813	0.5840	49.679	49.836
3	1	7	1.0870	42572	0.5815	0.5842	49.689	49.846
3	3	4	1.0865	543947	0.5821	0.5848	49.725	49.882
4	2	4	1.0857	26668	0.5829	0.5856	49.773	49.931
5	1	- 6	1.0851	128700	0.5836	0.5863	49.810	49.967
2	0	-10	1.0836	55075	0.5852	0.5879	49.904	50.062
5	2	0	1.0818	150394	0.5871	0.5898	50.017	50.176
5	0	3	1.0815	14287	0.5874	0.5902	50.036	50.195
2	4	2	1.0801	14590	0.5890	0.5917	50.126	50.286
4	3	1	1.0798	45295	0.5893	0.5921	50.145	50.305
4	2	- 7	1.0795	52194	0.5896	0.5923	50.162	50.321
4	3	- 4	1.0770	118492	0.5924	0.5951	50.322	50.483
5	2	- 4	1.0736	29744	0.5961	0.5989	50.541	50.703
0	0	10	1.0732	177807	0.5966	0.5994	50.570	50.732
2	2	- 9	1.0713	39743	0.5987	0.6015	50.691	50.853
0	2	9	1.0688	44	0.6015	0.6043	50.854	51.017
1	1	-10	1.0686	246193	0.6017	0.6045	50.867	51.031
1	4	4	1.0663	220520	0.6043	0.6071	51.021	51.186
1	3	7	1.0637	1965	0.6073	0.6101	51.197	51.362
2	3	6	1.0634	3	0.6076	0.6105	51.216	51.382
2	4	- 4	1.0624	121693	0.6087	0.6115	51.279	51.445
5	0	- 7	1.0614	51840	0.6099	0.6128	51.351	51.518
5	2	1	1.0573	420424	0.6147	0.6175	51.630	51.799
2	1	-10	1.0572	397501	0.6147	0.6176	51.632	51.801
5	1	3	1.0553	131038	0.6170	0.6199	51.766	51.935
4	0	6	1.0539	9413	0.6186	0.6215	51.862	52.032
1	4	- 5	1.0535	139844	0.6191	0.6220	51.891	52.061
0	4	5	1.0511	15488	0.6220	0.6249	52.059	52.230
4	3	2	1.0489	823554	0.6245	0.6274	52.210	52.381
0	1	10	1.0475	339	0.6262	0.6291	52.307	52.480
2	4	3	1.0464	27369	0.6275	0.6304	52.385	52.558
4	0	- 9	1.0462	95192	0.6277	0.6306	52.400	52.573
5	2	- 5	1.0458	2802011	0.6282	0.6311	52.428	52.601
4	3	- 5	1.0454	58468	0.6288	0.6317	52.461	52.635
1	3	- 8	1.0427	95717	0.6320	0.6349	52.651	52.826
3	4	- 1	1.0405	72624	0.6346	0.6376	52.809	52.985
3	0	-10	1.0396	6758	0.6357	0.6387	52.875	53.052
2	0	9	1.0393	34554	0.6361	0.6390	52.897	53.073

TABLE II CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
3	3	- 7	1.0391	181053	0.6363	0.6393	52.911	53.087
5	1	- 7	1.0366	9556	0.6395	0.6425	53.100	53.278
3	4	- 2	1.0365	743731	0.6395	0.6425	53.103	53.281
3	4	0	1.0348	66581	0.6416	0.6446	53.227	53.405
2	2	8	1.0327	2453154	0.6442	0.6472	53.382	53.562
6	0	- 2	1.0304	53909	0.6472	0.6502	53.562	53.742
0	3	8	1.0299	203997	0.6478	0.6508	53.596	53.777
4	1	6	1.0296	164046	0.6482	0.6512	53.619	53.800
3	3	5	1.0291	75342	0.6488	0.6518	53.654	53.835
5	0	4	1.0275	7934	0.6508	0.6538	53.778	53.960
6	0	- 3	1.0273	33349	0.6511	0.6541	53.796	53.978
3	2	- 9	1.0254	803200	0.6535	0.6566	53.942	54.125
2	3	- 8	1.0253	18906	0.6536	0.6567	53.948	54.131
2	4	- 5	1.0252	177256	0.6538	0.6568	53.955	54.138
4	2	5	1.0251	1341525	0.6539	0.6570	53.964	54.147
5	2	2	1.0248	848	0.6542	0.6572	53.982	54.165
3	0	8	1.0247	47533	0.6544	0.6574	53.992	54.176
6	0	- 1	1.0240	104935	0.6553	0.6583	54.045	54.229
3	4	- 3	1.0231	158194	0.6564	0.6595	54.115	54.299
4	1	- 9	1.0224	11235	0.6573	0.6603	54.167	54.352
1	0	10	1.0214	9	0.6586	0.6617	54.246	54.431
1	2	9	1.0210	10690	0.6591	0.6622	54.278	54.463
3	4	1	1.0199	89995	0.6606	0.6636	54.365	54.551
4	2	- 8	1.0189	292392	0.6618	0.6649	54.440	54.627
1	4	5	1.0185	270246	0.6623	0.6654	54.473	54.660
3	1	-10	1.0163	403382	0.6653	0.6684	54.651	54.839
2	1	9	1.0160	991	0.6656	0.6687	54.673	54.861
6	0	- 4	1.0150	29963	0.6669	0.6700	54.752	54.941
3	2	7	1.0126	204	0.6701	0.6732	54.946	55.136
4	3	3	1.0115	62301	0.6716	0.6748	55.038	55.228
5	2	- 6	1.0110	78788	0.6722	0.6753	55.073	55.264
6	0	0	1.0088	305253	0.6752	0.6784	55.258	55.450
6	1	- 2	1.0076	60878	0.6768	0.6799	55.352	55.545
4	3	- 6	1.0074	15100	0.6771	0.6802	55.372	55.565
5	0	- 8	1.0068	985	0.6778	0.6810	55.416	55.610
2	4	4	1.0068	559763	0.6779	0.6810	55.420	55.613
5	1	4	1.0049	46758	0.6804	0.6835	55.573	55.768
1	4	- 6	1.0049	65829	0.6804	0.6836	55.575	55.770
6	1	- 3	1.0047	6476	0.6807	0.6838	55.591	55.785
3	1	8	1.0023	56513	0.6839	0.6871	55.792	55.988
6	1	- 1	1.0017	259845	0.6848	0.6880	55.846	56.043
3	4	- 4	1.0014	13115	0.6852	0.6884	55.870	56.067
0	4	6	0.9996	184395	0.6876	0.6908	56.018	56.216
1	1	10	0.9992	9954	0.6881	0.6913	56.052	56.250
1	2	-10	0.9977	1119641	0.6903	0.6935	56.188	56.387
3	4	2	0.9969	8845	0.6914	0.6946	56.255	56.455
1	0	-11	0.9957	0	0.6931	0.6963	56.359	56.559
2	3	7	0.9951	93185	0.6938	0.6971	56.405	56.606
6	0	- 5	0.9945	629	0.6947	0.6979	56.458	56.659
6	1	- 4	0.9932	123188	0.6965	0.6997	56.570	56.772
1	3	8	0.9900	204859	0.7011	0.7044	56.859	57.064
2	0	-11	0.9895	18773	0.7018	0.7051	56.903	57.107
2	2	-10	0.9884	99683	0.7034	0.7066	57.001	57.206
6	1	0	0.9874	30917	0.7048	0.7081	57.088	57.295
5	2	3	0.9868	25869	0.7056	0.7089	57.143	57.350
6	0	1	0.9857	19644	0.7071	0.7104	57.236	57.444
5	1	- 8	0.9856	414755	0.7074	0.7107	57.252	57.459
2	4	- 6	0.9832	87306	0.7107	0.7140	57.464	57.673

TABLE II CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
3	3	- 8	0.9818	4128	0.7128	0.7162	57.597	57.807
4	0	7	0.9813	48965	0.7135	0.7168	57.637	57.848
0	2	10	0.9804	322399	0.7148	0.7181	57.722	57.933
5	3	- 2	0.9800	14210	0.7155	0.7188	57.766	57.977
5	3	- 1	0.9774	404797	0.7192	0.7226	58.002	58.216
0	0	11	0.9756	267029	0.7219	0.7252	58.173	58.388
1	1	-11	0.9751	195963	0.7226	0.7260	58.221	58.437
5	3	- 3	0.9744	17820	0.7237	0.7271	58.290	58.506
4	0	-10	0.9743	35182	0.7238	0.7272	58.294	58.510
6	1	- 5	0.9740	20153	0.7242	0.7276	58.323	58.540
3	4	- 5	0.9729	0	0.7259	0.7293	58.432	58.649
5	0	5	0.9728	229561	0.7261	0.7295	58.444	58.662
3	3	6	0.9719	410	0.7274	0.7307	58.523	58.741
5	2	- 7	0.9714	94192	0.7281	0.7315	58.574	58.793
1	3	- 9	0.9708	29829	0.7291	0.7324	58.633	58.852
4	3	4	0.9697	83756	0.7307	0.7341	58.738	58.957
2	1	-11	0.9693	45854	0.7314	0.7348	58.782	59.002
1	4	6	0.9687	17129	0.7323	0.7357	58.841	59.062
3	4	3	0.9674	195889	0.7342	0.7376	58.967	59.188
6	0	- 6	0.9673	655	0.7344	0.7378	58.977	59.199
5	3	0	0.9670	810	0.7349	0.7383	59.008	59.231
6	1	1	0.9658	4214	0.7367	0.7401	59.126	59.350
4	2	6	0.9657	17127	0.7368	0.7403	59.136	59.359
4	3	- 7	0.9653	117667	0.7374	0.7408	59.170	59.394
2	4	5	0.9635	19613	0.7402	0.7437	59.357	59.582
4	1	7	0.9616	170582	0.7430	0.7465	59.541	59.768
5	3	- 4	0.9611	19481	0.7439	0.7473	59.596	59.823
0	5	1	0.9605	3539	0.7447	0.7482	59.653	59.881
4	2	- 9	0.9598	173436	0.7459	0.7494	59.732	59.960
2	3	- 9	0.9594	585924	0.7464	0.7499	59.764	59.993
3	0	-11	0.9584	2088	0.7480	0.7515	59.871	60.101
0	3	9	0.9577	78321	0.7492	0.7527	59.948	60.178
6	0	2	0.9565	28985	0.7510	0.7545	60.064	60.296
0	1	11	0.9562	327243	0.7514	0.7549	60.096	60.328
4	1	-10	0.9550	50830	0.7533	0.7568	60.222	60.455
1	4	- 7	0.9548	77791	0.7536	0.7572	60.242	60.475
3	2	-10	0.9547	12329	0.7539	0.7574	60.261	60.494
2	2	9	0.9544	63036	0.7543	0.7578	60.285	60.519
5	1	5	0.9536	6524	0.7557	0.7592	60.377	60.612
1	5	0	0.9524	1785	0.7575	0.7611	60.501	60.737
5	0	- 9	0.9523	296434	0.7576	0.7612	60.507	60.744
2	0	10	0.9520	3656	0.7581	0.7616	60.538	60.774
1	5	- 1	0.9514	6797	0.7592	0.7627	60.611	60.848
4	4	- 1	0.9498	16773	0.7616	0.7651	60.773	61.012
4	4	- 2	0.9495	9858	0.7622	0.7657	60.814	61.053
5	3	1	0.9493	199831	0.7624	0.7660	60.830	61.070
0	5	2	0.9492	11608	0.7626	0.7662	60.843	61.083
6	1	- 6	0.9484	8709	0.7639	0.7675	60.931	61.171
0	4	7	0.9476	138187	0.7652	0.7687	61.013	61.254
6	2	- 2	0.9475	98513	0.7654	0.7690	61.031	61.272
1	5	1	0.9460	5723	0.7678	0.7714	61.194	61.436
3	0	9	0.9454	161700	0.7688	0.7723	61.258	61.502
5	2	4	0.9452	14506	0.7690	0.7726	61.275	61.519
6	2	- 3	0.9451	60978	0.7693	0.7729	61.295	61.539
3	2	8	0.9431	86955	0.7726	0.7762	61.518	61.764
1	5	- 2	0.9430	7867	0.7727	0.7763	61.529	61.776
4	4	0	0.9429	78732	0.7729	0.7765	61.541	61.787
6	2	- 1	0.9425	191989	0.7735	0.7771	61.578	61.825

TABLE II CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
4	4	- 3	0.9418	41991	0.7747	0.7783	61.665	61.913
5	3	- 5	0.9410	26316	0.7759	0.7796	61.748	61.997
1	2	10	0.9405	18	0.7768	0.7804	61.807	62.056
3	1	-11	0.9400	1833	0.7776	0.7812	61.862	62.112
3	4	- 6	0.9394	248101	0.7786	0.7822	61.930	62.181
2	4	- 7	0.9388	106843	0.7797	0.7833	62.004	62.255
6	1	2	0.9383	4915	0.7805	0.7841	62.064	62.316
6	2	- 4	0.9355	54917	0.7851	0.7888	62.385	62.640
6	0	- 7	0.9350	5224	0.7860	0.7897	62.445	62.701
5	1	- 9	0.9343	701886	0.7872	0.7908	62.528	62.785
2	1	10	0.9340	1010	0.7876	0.7913	62.559	62.817
1	0	11	0.9337	32599	0.7882	0.7919	62.599	62.857
3	4	4	0.9332	37485	0.7890	0.7926	62.652	62.910
1	5	2	0.9326	112368	0.7900	0.7937	62.728	62.987
2	3	8	0.9314	12929	0.7920	0.7957	62.864	63.125
0	5	3	0.9312	192251	0.7925	0.7962	62.899	63.160
6	2	0	0.9306	560168	0.7934	0.7971	62.967	63.229
5	2	- 8	0.9291	1809	0.7960	0.7997	63.151	63.415
4	4	1	0.9290	65637	0.7962	0.7999	63.162	63.426
1	5	- 3	0.9278	484252	0.7983	0.8020	63.310	63.576
3	1	9	0.9277	3135	0.7983	0.8020	63.315	63.581
4	4	- 4	0.9272	35178	0.7992	0.8029	63.378	63.645
3	3	- 9	0.9260	375090	0.8013	0.8050	63.528	63.797
4	3	5	0.9258	168944	0.8017	0.8054	63.555	63.823
5	3	2	0.9256	639296	0.8020	0.8057	63.575	63.844
6	0	3	0.9229	71328	0.8067	0.8105	63.920	64.193
1	3	9	0.9228	55791	0.8069	0.8106	63.930	64.204
4	3	- 8	0.9213	82278	0.8096	0.8133	64.126	64.401
2	5	- 1	0.9204	61885	0.8111	0.8149	64.240	64.517
1	2	-11	0.9203	0	0.8113	0.8151	64.253	64.530
6	2	- 5	0.9194	1157	0.8129	0.8167	64.370	64.649
5	0	6	0.9191	30642	0.8134	0.8172	64.405	64.684
2	5	0	0.9189	52958	0.8138	0.8176	64.436	64.716
1	4	7	0.9187	45900	0.8142	0.8180	64.464	64.744
2	4	6	0.9185	37851	0.8145	0.8183	64.488	64.768
6	1	- 7	0.9179	6610	0.8156	0.8193	64.566	64.847
1	1	11	0.9166	874635	0.8178	0.8216	64.729	65.012
3	3	7	0.9166	35403	0.8179	0.8217	64.738	65.022
5	3	- 6	0.9154	107069	0.8200	0.8238	64.893	65.178
2	2	-11	0.9154	34525	0.8200	0.8238	64.897	65.183
4	0	8	0.9152	7469	0.8203	0.8241	64.915	65.201
2	5	- 2	0.9152	57503	0.8204	0.8242	64.924	65.209
1	5	3	0.9131	57478	0.8242	0.8280	65.210	65.500
6	2	1	0.9124	36132	0.8253	0.8292	65.296	65.587
1	0	-12	0.9121	23	0.8260	0.8298	65.346	65.637
2	5	1	0.9107	1635623	0.8284	0.8323	65.529	65.823
2	0	-12	0.9096	61	0.8304	0.8342	65.680	65.976
4	4	2	0.9091	99971	0.8314	0.8352	65.754	66.051
4	2	7	0.9089	90076	0.8317	0.8355	65.778	66.076
4	0	-11	0.9089	73250	0.8318	0.8357	65.787	66.084
0	5	4	0.9075	615110	0.8342	0.8381	65.974	66.274
4	4	- 5	0.9068	132	0.8356	0.8395	66.081	66.382
1	5	- 4	0.9068	431382	0.8357	0.8396	66.087	66.389
6	1	3	0.9064	242302	0.8363	0.8402	66.133	66.435
1	3	-10	0.9055	205491	0.8381	0.8420	66.273	66.578
1	4	- 8	0.9051	143035	0.8388	0.8427	66.329	66.635
0	2	11	0.9044	491324	0.8401	0.8440	66.429	66.736
2	5	- 3	0.9036	239114	0.8416	0.8455	66.544	66.852

TABLE II CONTINUED

	K	L	D	I	SIN SQ THETA		THETA	
4	2	-10	0.9034	64737	0.8420	0.8459	66.578	66.887
5	1	6	0.9029	265242	0.8429	0.8468	66.651	66.961
3	4	- 7	0.9027	121908	0.8432	0.8471	66.671	66.982
5	2	5	0.9021	422428	0.8443	0.8483	66.762	67.074
5	0	-10	0.8994	26653	0.8494	0.8533	67.163	67.481
6	0	- 8	0.8993	2659	0.8496	0.8535	67.178	67.496
4	1	8	0.8992	31498	0.8498	0.8538	67.198	67.517
2	3	-10	0.8985	332560	0.8511	0.8551	67.304	67.625
6	2	- 6	0.8977	1206	0.8526	0.8566	67.422	67.744
5	3	3	0.8973	109674	0.8534	0.8574	67.488	67.811
0	4	8	0.8966	24760	0.8546	0.8586	67.588	67.913
2	5	2	0.8965	131971	0.8550	0.8589	67.614	67.939
1	1	-12	0.8962	56546	0.8555	0.8595	67.662	67.988
3	4	5	0.8961	227459	0.8556	0.8596	67.668	67.994
0	0	12	0.8943	97219	0.8591	0.8631	67.954	68.285
2	1	-12	0.8939	88892	0.8599	0.8639	68.022	68.354
2	4	- 8	0.8936	209904	0.8605	0.8645	68.069	68.402
4	1	-11	0.8932	71158	0.8613	0.8653	68.138	68.472
0	3	10	0.8925	284	0.8626	0.8666	68.240	68.575
3	2	-11	0.8906	3844	0.8662	0.8703	68.548	68.889
6	2	2	0.8891	53368	0.8692	0.8732	68.795	69.141
1	5	4	0.8886	108270	0.8703	0.8743	68.889	69.237
3	0	-12	0.8875	10698	0.8723	0.8764	69.062	69.413
6	0	4	0.8864	44669	0.8744	0.8785	69.246	69.600
2	5	- 4	0.8863	244	0.8747	0.8787	69.267	69.621
5	2	- 9	0.8857	545876	0.8758	0.8799	69.368	69.724
5	3	- 7	0.8857	8030	0.8759	0.8800	69.374	69.730
2	2	10	0.8855	6733	0.8763	0.8804	69.407	69.764
4	4	3	0.8844	327006	0.8785	0.8826	69.599	69.960
5	1	-10	0.8842	99997	0.8789	0.8830	69.637	69.999
6	1	- 8	0.8841	112196	0.8791	0.8832	69.654	70.016
7	0	- 3	0.8826	3917	0.8820	0.8861	69.907	70.274
7	0	- 2	0.8824	120274	0.8824	0.8865	69.945	70.313
4	4	- 6	0.8817	33135	0.8839	0.8881	70.082	70.453
4	3	6	0.8813	138052	0.8846	0.8887	70.140	70.511
1	5	- 5	0.8811	22068	0.8851	0.8892	70.183	70.555
3	2	9	0.8801	297839	0.8870	0.8911	70.355	70.731
0	5	5	0.8797	25163	0.8879	0.8921	70.441	70.819
0	1	12	0.8793	5635	0.8887	0.8928	70.508	70.888
2	0	11	0.8777	2661	0.8920	0.8962	70.816	71.202
2	5	3	0.8770	39607	0.8934	0.8976	70.946	71.336
7	0	- 4	0.8769	267105	0.8935	0.8976	70.951	71.340
4	3	- 9	0.8768	9470	0.8937	0.8978	70.970	71.360
7	0	- 1	0.8763	71952	0.8948	0.8989	71.071	71.463
3	0	10	0.8761	2300	0.8951	0.8993	71.102	71.494
3	5	- 1	0.8735	55606	0.9006	0.9048	71.620	72.025
2	4	7	0.8734	98957	0.9007	0.9049	71.632	72.037
3	3	-10	0.8729	340463	0.9017	0.9059	71.727	72.134
3	1	-12	0.8729	1850	0.9018	0.9060	71.742	72.150
2	3	9	0.8728	836	0.9020	0.9062	71.761	72.169
6	1	4	0.8718	269385	0.9040	0.9082	71.949	72.362
6	2	- 7	0.8717	9626	0.9042	0.9084	71.971	72.384
3	5	- 2	0.8711	201509	0.9055	0.9097	72.098	72.514
1	2	11	0.8707	60069	0.9064	0.9106	72.186	72.604
3	5	0	0.8701	150551	0.9076	0.9118	72.302	72.723
1	4	8	0.8699	152680	0.9080	0.9122	72.341	72.764
7	1	- 3	0.8682	70313	0.9115	0.9158	72.696	73.128
7	1	- 2	0.8680	134289	0.9120	0.9162	72.739	73.173

TABLE II CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
5	0	7	0.8677	49370	0.9125	0.9168	72.799	73.234
6	3	- 2	0.8674	51482	0.9132	0.9174	72.863	73.300
5	3	4	0.8657	39565	0.9168	0.9210	73.233	73.680
7	0	- 5	0.8657	34761	0.9169	0.9212	73.247	73.695
6	3	- 3	0.8656	5480	0.9171	0.9213	73.263	73.711
7	0	0	0.8647	17194	0.9191	0.9233	73.471	73.925
3	4	- 8	0.8643	30603	0.9197	0.9240	73.538	73.995
2	5	- 5	0.8643	136272	0.9197	0.9240	73.541	73.997
3	3	8	0.8640	47849	0.9203	0.9246	73.606	74.065
6	3	- 1	0.8636	220040	0.9212	0.9255	73.699	74.160
2	1	11	0.8635	3833	0.9216	0.9259	73.737	74.199
5	4	- 2	0.8631	12183	0.9224	0.9266	73.821	74.286
3	5	- 3	0.8631	17831	0.9224	0.9267	73.822	74.287
7	1	- 4	0.8628	1360290	0.9230	0.9273	73.893	74.360
7	1	- 1	0.8622	346881	0.9243	0.9286	74.032	74.503
1	3	10	0.8621	8433	0.9245	0.9288	74.057	74.529
3	1	10	0.8620	26248	0.9246	0.9289	74.068	74.541
6	2	3	0.8619	131481	0.9249	0.9292	74.099	74.573
6	0	- 9	0.8618	1257	0.9250	0.9293	74.111	74.585
5	4	- 1	0.8614	573127	0.9261	0.9304	74.223	74.701
3	5	1	0.8612	8700	0.9265	0.9308	74.271	74.751
1	5	5	0.8603	26050	0.9283	0.9326	74.468	74.954
1	0	12	0.8597	101437	0.9297	0.9341	74.629	75.121
5	4	- 3	0.8593	53589	0.9306	0.9349	74.723	75.218
5	2	6	0.8588	56491	0.9316	0.9359	74.836	75.335
6	3	- 4	0.8582	104402	0.9329	0.9372	74.986	75.491
3	4	6	0.8576	25775	0.9342	0.9386	75.138	75.648
1	4	- 9	0.8568	4335	0.9359	0.9403	75.336	75.853
4	4	4	0.8561	20451	0.9375	0.9419	75.527	76.052
4	2	8	0.8557	13771	0.9385	0.9428	75.637	76.166
4	0	9	0.8554	231035	0.9390	0.9433	75.698	76.229
6	3	0	0.8544	26212	0.9412	0.9456	75.965	76.507
5	4	0	0.8542	115427	0.9417	0.9461	76.030	76.576
5	1	7	0.8540	9581	0.9421	0.9465	76.076	76.623
5	3	- 8	0.8533	351673	0.9438	0.9482	76.284	76.840
2	5	4	0.8532	409340	0.9438	0.9482	76.291	76.848
1	2	-12	0.8531	42	0.9442	0.9486	76.336	76.895
4	4	- 7	0.8531	40079	0.9442	0.9486	76.338	76.897
1	5	- 6	0.8521	21386	0.9464	0.9508	76.610	77.181
7	1	- 5	0.8520	5059	0.9465	0.9509	76.622	77.193
2	2	-12	0.8511	112	0.9486	0.9530	76.895	77.480
7	1	0	0.8511	463308	0.9486	0.9530	76.897	77.482
4	2	-11	0.8505	135086	0.9500	0.9544	77.078	77.671
5	4	- 4	0.8501	22869	0.9507	0.9551	77.174	77.773
3	5	- 4	0.8499	10286	0.9512	0.9556	77.233	77.834
4	0	-12	0.8497	6712	0.9517	0.9561	77.307	77.911
7	0	- 6	0.8494	115839	0.9523	0.9567	77.382	77.991
5	0	-11	0.8491	9794	0.9530	0.9575	77.485	78.099
2	4	- 9	0.8490	30573	0.9533	0.9577	77.517	78.133
0	5	6	0.8489	154334	0.9536	0.9580	77.554	78.172
6	0	5	0.8486	40864	0.9541	0.9585	77.624	78.246
6	1	- 9	0.8484	281711	0.9546	0.9590	77.697	78.323
7	0	1	0.8481	51638	0.9553	0.9597	77.792	78.423
0	4	9	0.8478	34	0.9561	0.9605	77.901	78.538
3	5	2	0.8472	12988	0.9574	0.9618	78.086	78.734
1	3	-11	0.8464	166265	0.9591	0.9635	78.326	78.988
1	1	12	0.8463	330838	0.9593	0.9638	78.360	79.025
6	3	- 5	0.8457	17100	0.9607	0.9651	78.559	79.236

TABLE II CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
5	2	-10	0.8427	49169	0.9676	0.9721	79.626	80.380
6	2	- 8	0.8426	4906	0.9678	0.9723	79.656	80.413
2	3	-11	0.8426	38919	0.9678	0.9723	79.658	80.415
4	1	9	0.8423	1269378	0.9685	0.9730	79.781	80.547
5	4	1	0.8419	324438	0.9693	0.9738	79.909	80.687
1	0	-13	0.8413	5004	0.9708	0.9753	80.165	80.965
2	0	-13	0.8413	52503	0.9709	0.9754	80.177	80.978
6	3	1	0.8403	3577	0.9731	0.9776	80.558	81.395
2	5	- 6	0.8387	120035	0.9767	0.9812	81.220	82.128
0	2	12	0.8385	179372	0.9773	0.9819	81.337	82.259
4	3	7	0.8376	144850	0.9794	0.9840	81.755	82.731
4	1	-12	0.8368	68509	0.9813	0.9858	82.133	83.163
7	1	- 6	0.8366	105062	0.9818	0.9864	82.253	83.302
5	1	-11	0.8362	162028	0.9826	0.9872	82.419	83.495
5	4	- 5	0.8361	2167943	0.9828	0.9874	82.465	83.548
6	1	5	0.8358	38410	0.9836	0.9882	82.646	83.761
7	1	1	0.8353	3622	0.9848	0.9894	82.926	84.095
0	3	11	0.8340	277967	0.9879	0.9924	83.672	85.013
4	3	-10	0.8332	43180	0.9898	0.9944	84.190	85.690
3	2	-12	0.8329	19746	0.9905	0.9951	84.407	85.988
3	5	- 5	0.8323	114309	0.9919	0.9965	84.833	86.609
5	3	5	0.8322	5544	0.9921	0.9967	84.897	86.707
6	2	4	0.8320	82462	0.9926	0.9973	85.077	86.995
1	5	6	0.8296	74348	0.9982		87.598	
2	4	8	0.8294	1905641	0.9988		88.041	
7	0	- 7	0.8291	1606	0.9996		88.821	

TABLE III

CALCULATED POWDER PATTERN OF ALPHA PLUTONIUM
FOR COBALT K ALPHA RADIATION

H	K	L	D	I	SIN SQ THETA	THETA
0	0	1	10.7317	853	0.0070	4.784
1	0	0	6.0526	678	0.0219	8.505
1	0	- 1	5.8037	588	0.0238	8.872
0	0	2	5.3659	138	0.0278	9.603
1	0	1	4.8638	1825	0.0339	10.605
1	0	- 2	4.4971	4894	0.0396	11.481
0	1	1	4.3984	8995	0.0414	11.742
1	1	0	3.7714	4393	0.0563	13.729
1	1	- 1	3.7089	16657	0.0582	13.966
1	0	2	3.6610	3608	0.0598	14.152
0	1	2	3.5866	28226	0.0623	14.452
0	0	3	3.5772	7381	0.0626	14.491
1	1	1	3.4244	13760	0.0683	15.153
1	0	- 3	3.3987	22	0.0694	15.270
1	1	- 2	3.2888	18723	0.0741	15.793
2	0	- 1	3.0818	45422	0.0844	16.885
2	0	0	3.0263	14335	0.0875	17.204
1	1	2	2.9158	258705	0.0942	17.877
2	0	- 2	2.9018	54127	0.0951	17.967
0	1	3	2.8730	440708	0.0971	18.153
1	0	3	2.8362	134348	0.0996	18.397
1	1	- 3	2.7780	1098981	0.1038	18.797
2	0	1	2.7687	552974	0.1045	18.863
0	0	4	2.6829	896016	0.1113	19.489
1	0	- 4	2.6626	1905	0.1130	19.644
2	1	- 1	2.5968	137509	0.1188	20.163
2	0	- 3	2.5855	1422436	0.1199	20.255
2	1	0	2.5633	117179	0.1219	20.439
2	1	- 2	2.4863	125975	0.1296	21.101
1	1	3	2.4447	125261	0.1341	21.478
2	0	2	2.4319	13218	0.1355	21.597
0	2	0	2.4110	3158824	0.1378	21.793
2	1	1	2.4010	3544270	0.1390	21.888
0	2	1	2.3524	1211	0.1448	22.365
0	1	4	2.3445	1322720	0.1458	22.445
1	1	- 4	2.3308	925878	0.1475	22.583
1	0	4	2.2858	196356	0.1533	23.053
2	1	- 3	2.2786	509393	0.1543	23.130
2	0	- 4	2.2486	107848	0.1585	23.458
1	2	0	2.2398	992	0.1597	23.555
1	2	- 1	2.2265	864	0.1616	23.705
0	2	2	2.1992	203	0.1657	24.017
2	1	2	2.1714	276566	0.1699	24.345
1	0	- 5	2.1672	122606	0.1706	24.395
1	2	1	2.1602	2713	0.1717	24.480
0	0	5	2.1463	13540	0.1739	24.648
1	2	- 2	2.1249	7340	0.1774	24.913
2	0	3	2.1078	23796	0.1803	25.129
1	1	4	2.0655	222898	0.1878	25.681
3	0	- 1	2.0607	62710	0.1887	25.745
2	1	- 4	2.0379	500	0.1929	26.055
3	0	- 2	2.0300	639225	0.1944	26.163
3	0	0	2.0175	57115	0.1968	26.338
1	2	2	2.0136	5547	0.1976	26.394
0	2	3	1.9993	11379	0.2004	26.597

TABLE III CONTINUED

H	K	L	D	I	SIN SQ THETA	THETA
1	1	- 5	1.9767	44718	0.2050	26.925
1	2	- 3	1.9665	34	0.2072	27.077
0	1	5	1.9609	50847	0.2084	27.161
2	0	- 5	1.9487	150534	0.2110	27.345
3	0	- 3	1.9346	134068	0.2141	27.561
2	1	3	1.9313	79615	0.2148	27.611
3	0	1	1.9131	76027	0.2189	27.897
1	0	5	1.9041	227992	0.2210	28.041
2	2	- 1	1.8989	71503	0.2222	28.123
3	1	- 1	1.8949	111030	0.2231	28.188
2	2	0	1.8857	22626	0.2253	28.338
3	1	- 2	1.8710	400538	0.2289	28.582
3	1	0	1.8612	298686	0.2313	28.746
2	2	- 2	1.8544	85958	0.2330	28.861
1	2	3	1.8370	214082	0.2374	29.162
2	0	4	1.8305	466841	0.2391	29.275
1	0	- 6	1.8193	54802	0.2421	29.473
2	2	1	1.8182	884324	0.2424	29.492
2	1	- 5	1.8067	267446	0.2455	29.698
3	0	- 4	1.7986	10881	0.2477	29.845
3	1	- 3	1.7955	34915	0.2485	29.904
0	2	4	1.7933	1439713	0.2491	29.943
0	0	6	1.7886	152719	0.2504	30.029
1	2	- 4	1.7872	3065	0.2509	30.056
3	1	1	1.7782	16975	0.2534	30.223
3	0	2	1.7729	7303	0.2549	30.324
1	1	5	1.7710	50746	0.2555	30.359
2	2	- 3	1.7633	2298419	0.2577	30.506
2	2	2	1.7122	21543	0.2733	31.519
2	1	4	1.7113	787058	0.2736	31.537
1	1	- 6	1.7022	41035	0.2765	31.726
2	0	- 6	1.6994	70985	0.2774	31.785
3	1	- 4	1.6852	19660	0.2821	32.083
0	1	6	1.6770	294403	0.2849	32.260
3	1	2	1.6640	24701	0.2894	32.543
1	2	4	1.6588	322630	0.2912	32.657
3	0	- 5	1.6476	0	0.2951	32.907
2	2	- 4	1.6444	177642	0.2963	32.979
1	0	6	1.6273	13715	0.3026	33.371
3	0	3	1.6213	156653	0.3048	33.511
1	2	- 5	1.6118	203077	0.3084	33.735
0	2	5	1.6031	22460	0.3118	33.942
2	0	5	1.6030	15624	0.3118	33.945
2	1	- 6	1.6028	225228	0.3119	33.951
0	3	1	1.5896	5622	0.3171	34.270
2	2	3	1.5869	39582	0.3182	34.338
3	2	- 1	1.5665	104674	0.3265	34.848
1	0	- 7	1.5642	61442	0.3275	34.907
3	1	- 5	1.5591	212252	0.3296	35.038
1	3	0	1.5535	2814	0.3320	35.183
3	2	- 2	1.5529	1069458	0.3323	35.199
1	3	- 1	1.5490	10700	0.3339	35.300
3	2	0	1.5473	95648	0.3347	35.346
4	0	- 1	1.5425	13183	0.3367	35.471
1	1	6	1.5419	137388	0.3370	35.488
4	0	- 2	1.5409	7745	0.3374	35.514
0	3	2	1.5397	18236	0.3380	35.545
3	1	3	1.5367	24053	0.3393	35.625

TABLE III CONTINUED

H	K	L	D	I	SIN SQ THETA	THETA
0	0	7	1.5331	108370	0.3409	35.722
1	3	1	1.5262	8962	0.3440	35.910
2	1	5	1.5211	926631	0.3463	36.047
2	2	- 5	1.5155	253224	0.3488	36.201
1	3	- 2	1.5136	12283	0.3497	36.256
4	0	0	1.5131	61453	0.3499	36.267
3	2	- 3	1.5089	225721	0.3519	36.386
4	0	- 3	1.5086	32740	0.3521	36.395
3	0	- 6	1.4990	192995	0.3566	36.664
3	2	1	1.4986	128173	0.3568	36.676
2	0	- 7	1.4964	83059	0.3578	36.738
1	2	5	1.4943	384584	0.3588	36.800
1	1	- 7	1.4879	794067	0.3619	36.985
3	0	4	1.4743	28981	0.3686	37.384
1	3	2	1.4717	173641	0.3699	37.459
4	1	- 1	1.4692	846808	0.3712	37.536
4	1	- 2	1.4678	1418703	0.3719	37.577
0	3	3	1.4661	296663	0.3727	37.627
0	1	7	1.4610	1681575	0.3753	37.781
2	2	4	1.4579	791200	0.3770	37.877
4	0	1	1.4577	50534	0.3771	37.883
1	3	- 3	1.4530	744745	0.3795	38.026
1	2	- 6	1.4522	92946	0.3799	38.051
4	0	- 4	1.4509	27036	0.3806	38.092
4	1	0	1.4437	127281	0.3844	38.316
3	2	- 4	1.4417	18480	0.3855	38.381
4	1	- 3	1.4398	20888	0.3865	38.441
0	2	6	1.4365	259544	0.3883	38.544
3	1	- 6	1.4315	2012886	0.3910	38.705
2	1	- 7	1.4292	89344	0.3923	38.778
3	2	2	1.4283	12425	0.3927	38.807
2	3	- 1	1.4251	94493	0.3945	38.909
2	3	0	1.4195	80762	0.3976	39.092
1	0	7	1.4188	34992	0.3980	39.117
2	0	6	1.4181	28852	0.3984	39.139
3	1	4	1.4098	688417	0.4031	39.412
2	3	- 2	1.4060	87425	0.4053	39.540
1	3	3	1.3984	87235	0.4097	39.799
4	1	1	1.3953	57211	0.4115	39.903
2	3	1	1.3901	2477630	0.4146	40.086
4	1	- 4	1.3894	149541	0.4151	40.109
2	2	- 6	1.3890	121606	0.4153	40.122
4	0	2	1.3843	75617	0.4181	40.286
0	3	4	1.3788	929317	0.4214	40.480
4	0	- 5	1.3762	100	0.4230	40.573
1	3	- 4	1.3760	651311	0.4231	40.579
1	0	- 8	1.3702	107828	0.4268	40.790
2	3	- 3	1.3651	360077	0.4300	40.975
3	0	- 7	1.3621	91723	0.4319	41.084
1	1	7	1.3611	2470	0.4325	41.121
2	1	6	1.3605	4	0.4329	41.142
3	2	- 5	1.3603	0	0.4330	41.149
1	2	6	1.3488	23642	0.4404	41.577
3	2	3	1.3454	270165	0.4427	41.707
0	0	8	1.3415	18536	0.4452	41.856
2	3	2	1.3409	197566	0.4456	41.877
3	0	5	1.3398	170209	0.4464	41.921
2	2	5	1.3349	26983	0.4496	42.110

TABLE III CONTINUED

H	K	L	D	I	SIN SQ THETA	THETA
2	0	- 8	1.3313	156740	0.4521	42.250
4	1	2	1.3306	1030598	0.4525	42.277
4	1	- 5	1.3234	73089	0.4575	42.562
1	1	- 8	1.3180	119555	0.4612	42.777
1	3	4	1.3148	161020	0.4635	42.905
1	2	- 7	1.3122	106441	0.4653	43.010
3	1	- 7	1.3108	225898	0.4663	43.069
2	3	- 4	1.3076	362	0.4686	43.199
4	0	3	1.3014	242323	0.4730	43.454
4	2	- 1	1.2994	22878	0.4746	43.542
4	2	- 2	1.2984	13443	0.4753	43.583
0	2	7	1.2937	188216	0.4787	43.780
4	0	- 6	1.2928	24498	0.4794	43.820
0	1	8	1.2924	253807	0.4797	43.836
1	3	- 5	1.2910	32617	0.4807	43.895
3	1	5	1.2909	93716	0.4808	43.901
0	3	5	1.2866	37146	0.4840	44.086
2	1	- 8	1.2833	23490	0.4865	44.228
4	2	0	1.2816	106909	0.4878	44.299
4	2	- 3	1.2789	56978	0.4899	44.421
2	3	3	1.2781	58337	0.4905	44.454
3	2	- 6	1.2730	336147	0.4944	44.678
2	2	- 7	1.2714	144700	0.4956	44.750
3	3	- 1	1.2674	81663	0.4988	44.931
2	0	7	1.2672	72660	0.4989	44.939
3	3	- 2	1.2602	295343	0.5045	45.261
3	2	4	1.2578	50585	0.5065	45.371
3	3	0	1.2571	220471	0.5070	45.399
1	0	8	1.2566	111777	0.5074	45.426
4	1	3	1.2565	77074	0.5075	45.429
4	1	- 6	1.2487	18659	0.5139	45.794
4	2	1	1.2474	88353	0.5149	45.853
4	2	- 4	1.2432	47317	0.5184	46.056
3	0	- 8	1.2400	22320	0.5211	46.209
2	3	- 5	1.2400	198778	0.5211	46.211
5	0	- 2	1.2363	8879	0.5242	46.387
3	3	- 3	1.2363	25992	0.5242	46.388
5	0	- 1	1.2312	417303	0.5285	46.636
3	3	1	1.2306	12668	0.5290	46.665
1	3	5	1.2282	37912	0.5311	46.784
2	1	7	1.2256	114865	0.5334	46.915
5	0	- 3	1.2252	38973	0.5338	46.937
1	2	7	1.2228	61511	0.5359	47.057
2	2	6	1.2223	50721	0.5363	47.079
3	0	6	1.2203	18727	0.5380	47.180
1	0	- 9	1.2181	3148	0.5400	47.295
1	1	8	1.2160	252123	0.5419	47.403
4	0	4	1.2159	14846	0.5419	47.403
5	0	0	1.2105	83702	0.5468	47.684
2	3	4	1.2078	593348	0.5492	47.826
4	0	- 7	1.2073	29044	0.5497	47.851
0	4	0	1.2055	1944792	0.5513	47.946
1	3	- 6	1.2046	30980	0.5522	47.996
3	1	- 8	1.2009	5067	0.5556	48.190
4	2	2	1.2005	133424	0.5559	48.211
5	0	- 4	1.1991	16546	0.5573	48.289
3	3	- 4	1.1985	14882	0.5578	48.318
0	4	1	1.1980	750	0.5583	48.347

TABLE III CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
5	1	- 2	1.1976	17435	0.5587		48.368	
2	0	- 9	1.1959	22105	0.5603		48.461	
0	3	6	1.1955	223160	0.5606		48.479	
4	2	- 5	1.1952	176	0.5609		48.497	
5	1	- 1	1.1930	496283	0.5630		48.619	
0	0	9	1.1924	24	0.5635		48.648	
1	2	- 8	1.1912	190564	0.5646		48.712	
3	3	2	1.1908	18762	0.5650		48.737	
5	1	- 3	1.1874	21827	0.5682		48.922	
3	2	- 7	1.1859	162253	0.5697		49.007	
3	1	6	1.1830	502	0.5725		49.167	
1	4	0	1.1823	623	0.5732		49.209	
1	1	- 9	1.1810	36496	0.5745		49.282	
1	4	- 1	1.1803	543	0.5751		49.320	
4	1	4	1.1790	102441	0.5764		49.392	
5	0	1	1.1764	233643	0.5789		49.542	
0	4	2	1.1762	128	0.5792		49.555	
5	1	0	1.1741	990	0.5812		49.675	
0	2	8	1.1722	32868	0.5831		49.782	
4	1	- 7	1.1712	143721	0.5841		49.844	
3	2	5	1.1711	301872	0.5842		49.848	
1	4	1	1.1701	1721	0.5852		49.906	
2	3	- 6	1.1677	172574	0.5876		50.043	
2	2	- 8	1.1654	278265	0.5899		50.179	
1	4	- 2	1.1644	4678	0.5909		50.240	
5	1	- 4	1.1636	23763	0.5917		50.286	
5	0	- 5	1.1607	1556120	0.5947		50.458	
2	1	- 9	1.1607	714338	0.5947		50.460	
0	1	9	1.1575	95433	0.5971	0.5997	50.599	50.750
3	3	- 5	1.1505	163702	0.6044	0.6070	51.026	51.179
4	2	3	1.1452	431770	0.6100	0.6126	51.354	51.509
1	4	2	1.1450	3591	0.6102	0.6129	51.368	51.523
1	3	6	1.1436	106246	0.6118	0.6144	51.460	51.616
2	0	8	1.1429	1361343	0.6125	0.6151	51.501	51.656
5	1	1	1.1429	242847	0.6125	0.6152	51.502	51.658
0	4	3	1.1424	7382	0.6131	0.6157	51.534	51.690
3	3	3	1.1415	18616	0.6141	0.6167	51.593	51.749
4	2	- 6	1.1393	43698	0.6163	0.6190	51.728	51.885
1	4	- 3	1.1362	22	0.6198	0.6225	51.931	52.090
2	3	5	1.1350	718949	0.6210	0.6237	52.005	52.163
3	0	- 9	1.1329	445535	0.6233	0.6260	52.141	52.300
4	0	5	1.1325	744132	0.6238	0.6265	52.166	52.326
5	0	2	1.1322	470	0.6241	0.6268	52.186	52.346
5	1	- 5	1.1285	31896	0.6282	0.6309	52.430	52.591
1	0	9	1.1271	5928	0.6298	0.6326	52.525	52.686
4	0	- 8	1.1243	162131	0.6330	0.6357	52.711	52.873
2	4	- 1	1.1227	47030	0.6348	0.6375	52.819	52.982
2	2	7	1.1217	130032	0.6359	0.6386	52.883	53.047
1	3	- 7	1.1210	619451	0.6367	0.6394	52.932	53.096
2	4	0	1.1199	14910	0.6379	0.6407	53.005	53.169
3	0	7	1.1158	113	0.6427	0.6454	53.288	53.455
1	2	8	1.1143	200315	0.6443	0.6471	53.389	53.556
5	0	- 6	1.1137	43668	0.6451	0.6479	53.433	53.600
2	4	- 2	1.1133	56906	0.6455	0.6483	53.462	53.629
4	3	- 1	1.1129	662672	0.6459	0.6487	53.484	53.652
4	3	- 2	1.1123	1110474	0.6466	0.6494	53.527	53.694
2	1	8	1.1121	15622	0.6469	0.6497	53.543	53.710
1	4	3	1.1094	142100	0.6500	0.6528	53.729	53.898

TABLE III CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
0	3	7	1.1094	1317761	0.6501	0.6529	53.733	53.902
2	4	1	1.1053	588671	0.6549	0.6577	54.024	54.195
3	1	- 9	1.1029	452427	0.6578	0.6606	54.196	54.367
3	2	- 8	1.1027	40053	0.6580	0.6608	54.210	54.381
4	1	5	1.1025	203764	0.6582	0.6610	54.221	54.393
5	1	2	1.1022	771011	0.6585	0.6614	54.242	54.414
4	3	0	1.1017	100045	0.6591	0.6620	54.278	54.450
5	2	- 2	1.1001	15936	0.6611	0.6639	54.397	54.570
4	3	- 3	1.1000	16430	0.6612	0.6641	54.406	54.579
0	4	4	1.0996	962125	0.6617	0.6645	54.434	54.607
1	4	- 4	1.0982	2050	0.6634	0.6663	54.537	54.711
1	1	9	1.0975	67224	0.6642	0.6671	54.588	54.762
5	2	- 1	1.0965	749121	0.6654	0.6683	54.659	54.834
3	3	- 6	1.0963	1585620	0.6657	0.6686	54.678	54.853
1	0	-10	1.0959	619882	0.6662	0.6691	54.706	54.881
2	3	- 7	1.0952	70408	0.6670	0.6698	54.753	54.929
4	1	- 8	1.0949	99090	0.6674	0.6702	54.778	54.954
2	4	- 3	1.0926	1543386	0.6702	0.6731	54.952	55.128
5	2	- 3	1.0922	69981	0.6706	0.6735	54.978	55.154
3	2	6	1.0888	33634	0.6749	0.6778	55.236	55.415
1	2	- 9	1.0872	5655	0.6769	0.6798	55.358	55.537
3	1	7	1.0870	42572	0.6771	0.6800	55.370	55.549
3	3	4	1.0865	543947	0.6778	0.6807	55.414	55.594
4	2	4	1.0857	26668	0.6788	0.6817	55.473	55.654
5	1	- 6	1.0851	128700	0.6795	0.6824	55.518	55.699
2	0	-10	1.0836	55075	0.6814	0.6843	55.634	55.815
5	2	0	1.0818	150394	0.6836	0.6866	55.773	55.955
5	0	3	1.0815	14287	0.6840	0.6870	55.797	55.979
2	4	2	1.0801	14590	0.6858	0.6888	55.908	56.091
4	3	1	1.0798	45295	0.6862	0.6892	55.931	56.115
4	2	- 7	1.0795	52194	0.6865	0.6895	55.952	56.135
4	3	- 4	1.0770	118492	0.6897	0.6927	56.150	56.335
5	2	- 4	1.0736	29744	0.6941	0.6971	56.421	56.608
0	0	10	1.0732	177807	0.6947	0.6977	56.457	56.644
2	2	- 9	1.0713	39743	0.6971	0.7001	56.607	56.795
0	2	9	1.0688	44	0.7003	0.7033	56.809	56.999
1	1	-10	1.0686	246193	0.7006	0.7036	56.826	57.016
1	4	4	1.0663	220520	0.7037	0.7067	57.018	57.209
1	3	7	1.0637	1965	0.7071	0.7102	57.237	57.430
2	3	6	1.0634	3	0.7075	0.7106	57.261	57.454
2	4	- 4	1.0624	121693	0.7088	0.7118	57.340	57.534
5	0	- 7	1.0614	51840	0.7102	0.7133	57.431	57.625
5	2	1	1.0573	420424	0.7157	0.7188	57.781	57.977
2	1	-10	1.0572	397501	0.7158	0.7189	57.783	57.980
5	1	3	1.0553	131038	0.7184	0.7215	57.951	58.149
4	0	6	1.0539	9413	0.7203	0.7234	58.072	58.271
1	4	- 5	1.0535	139844	0.7209	0.7240	58.108	58.307
0	4	5	1.0511	15488	0.7242	0.7273	58.321	58.522
4	3	2	1.0489	823554	0.7272	0.7303	58.511	58.713
0	1	10	1.0475	339	0.7291	0.7322	58.635	58.838
2	4	3	1.0464	27369	0.7306	0.7338	58.733	58.938
4	0	- 9	1.0462	95192	0.7309	0.7341	58.753	58.957
5	2	- 5	1.0458	2802011	0.7315	0.7346	58.788	58.992
4	3	- 5	1.0454	58468	0.7321	0.7353	58.830	59.035
1	3	- 8	1.0427	95717	0.7358	0.7390	59.072	59.279
3	4	- 1	1.0405	72624	0.7389	0.7421	59.274	59.482
3	0	-10	1.0396	6758	0.7402	0.7434	59.358	59.567
2	0	9	1.0393	34554	0.7406	0.7438	59.385	59.595

TABLE III CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
3	3	- 7	1.0391	181053	0.7409	0.7441	59.403	59.613
5	1	- 7	1.0366	9556	0.7446	0.7478	59.645	59.857
3	4	- 2	1.0365	743731	0.7447	0.7479	59.649	59.861
3	4	0	1.0348	66581	0.7471	0.7503	59.808	60.021
2	2	8	1.0327	2453154	0.7501	0.7534	60.008	60.223
6	0	- 2	1.0304	53909	0.7536	0.7569	60.239	60.456
0	3	8	1.0299	203997	0.7543	0.7575	60.283	60.501
4	1	6	1.0296	164046	0.7547	0.7580	60.314	60.531
3	3	5	1.0291	75342	0.7554	0.7587	60.359	60.577
5	0	4	1.0275	7934	0.7578	0.7611	60.519	60.739
6	0	- 3	1.0273	33349	0.7581	0.7614	60.542	60.761
3	2	- 9	1.0254	803200	0.7610	0.7643	60.732	60.953
2	3	- 8	1.0253	18906	0.7611	0.7644	60.740	60.961
2	4	- 5	1.0252	177256	0.7612	0.7645	60.749	60.970
4	2	5	1.0251	1341525	0.7614	0.7647	60.761	60.982
5	2	2	1.0248	848	0.7617	0.7650	60.783	61.005
3	0	8	1.0247	47533	0.7620	0.7652	60.797	61.019
6	0	- 1	1.0240	104935	0.7630	0.7663	60.866	61.088
3	4	- 3	1.0231	158194	0.7643	0.7676	60.956	61.180
4	1	- 9	1.0224	11235	0.7653	0.7686	61.025	61.249
1	0	10	1.0214	9	0.7669	0.7702	61.128	61.353
1	2	9	1.0210	10690	0.7675	0.7708	61.170	61.395
3	4	1	1.0199	89995	0.7691	0.7725	61.283	61.510
4	2	- 8	1.0189	292392	0.7706	0.7739	61.382	61.610
1	4	5	1.0185	270246	0.7712	0.7745	61.425	61.652
3	1	-10	1.0163	403382	0.7746	0.7780	61.659	61.889
2	1	9	1.0160	991	0.7751	0.7784	61.687	61.918
6	0	- 4	1.0150	29963	0.7766	0.7799	61.791	62.023
3	2	7	1.0126	204	0.7803	0.7837	62.048	62.281
4	3	3	1.0115	62301	0.7820	0.7854	62.169	62.404
5	2	- 6	1.0110	78788	0.7827	0.7861	62.215	62.451
6	0	0	1.0088	305253	0.7862	0.7896	62.461	62.699
6	1	- 2	1.0076	60878	0.7880	0.7914	62.586	62.825
4	3	- 6	1.0074	15100	0.7884	0.7918	62.612	62.852
5	0	- 8	1.0068	985	0.7892	0.7927	62.672	62.912
2	4	4	1.0068	559763	0.7893	0.7927	62.677	62.917
5	1	4	1.0049	46758	0.7922	0.7956	62.881	63.124
1	4	- 6	1.0049	65829	0.7923	0.7957	62.885	63.127
6	1	- 3	1.0047	6476	0.7926	0.7960	62.905	63.148
3	1	8	1.0023	56513	0.7964	0.7998	63.175	63.421
6	1	- 1	1.0017	259845	0.7974	0.8008	63.248	63.494
3	4	- 4	1.0014	13115	0.7978	0.8013	63.281	63.527
0	4	6	0.9996	184395	0.8006	0.8041	63.480	63.728
1	1	10	0.9992	9954	0.8013	0.8047	63.525	63.775
1	2	-10	0.9977	1119641	0.8038	0.8073	63.709	63.961
3	4	2	0.9969	8845	0.8051	0.8086	63.801	64.053
1	0	-11	0.9957	0	0.8070	0.8105	63.942	64.196
2	3	7	0.9951	93185	0.8079	0.8114	64.005	64.259
6	0	- 5	0.9945	629	0.8089	0.8124	64.077	64.333
6	1	- 4	0.9932	123188	0.8110	0.8145	64.230	64.487
1	3	8	0.9900	204859	0.8164	0.8199	64.627	64.889
2	0	-11	0.9895	18773	0.8172	0.8207	64.686	64.949
2	2	-10	0.9884	99683	0.8190	0.8225	64.822	65.086
6	1	0	0.9874	30917	0.8206	0.8242	64.943	65.209
5	2	3	0.9868	25869	0.8216	0.8252	65.019	65.286
6	0	1	0.9857	19644	0.8234	0.8269	65.148	65.417
5	1	- 8	0.9856	414755	0.8237	0.8272	65.169	65.438
2	4	- 6	0.9832	87306	0.8276	0.8312	65.466	65.738

TABLE III CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
3	3	- 8	0.9818	4128	0.8300	0.8336	65.652	65.927
4	0	7	0.9813	48965	0.8308	0.8344	65.708	65.983
0	2	10	0.9804	322399	0.8323	0.8359	65.827	66.104
5	3	- 2	0.9800	14210	0.8331	0.8367	65.889	66.166
5	3	- 1	0.9774	404797	0.8374	0.8411	66.223	66.505
0	0	11	0.9756	267029	0.8406	0.8442	66.466	66.751
1	1	-11	0.9751	195963	0.8414	0.8451	66.535	66.821
5	3	- 3	0.9744	17820	0.8427	0.8463	66.632	66.920
4	0	-10	0.9743	35182	0.8428	0.8464	66.639	66.927
6	1	- 5	0.9740	20153	0.8433	0.8469	66.681	66.969
3	4	- 5	0.9729	0	0.8453	0.8489	66.836	67.126
5	0	5	0.9728	229561	0.8455	0.8491	66.854	67.145
3	3	6	0.9719	410	0.8469	0.8506	66.967	67.260
5	2	- 7	0.9714	94192	0.8478	0.8515	67.041	67.335
1	3	- 9	0.9708	29829	0.8489	0.8526	67.126	67.421
4	3	4	0.9697	83756	0.8508	0.8545	67.277	67.574
2	1	-11	0.9693	45854	0.8516	0.8553	67.341	67.639
1	4	6	0.9687	17129	0.8527	0.8563	67.428	67.727
3	4	3	0.9674	195889	0.8549	0.8586	67.611	67.913
6	0	- 6	0.9673	655	0.8551	0.8588	67.626	67.928
5	3	0	0.9670	810	0.8557	0.8594	67.672	67.975
6	1	1	0.9658	4214	0.8578	0.8615	67.845	68.150
4	2	6	0.9657	17127	0.8580	0.8617	67.859	68.165
4	3	- 7	0.9653	117667	0.8586	0.8623	67.909	68.216
2	4	5	0.9635	19613	0.8619	0.8656	68.185	68.496
4	1	7	0.9616	170582	0.8652	0.8689	68.457	68.773
5	3	- 4	0.9611	19481	0.8661	0.8699	68.539	68.856
0	5	1	0.9605	3539	0.8672	0.8709	68.625	68.943
4	2	- 9	0.9598	173436	0.8686	0.8723	68.743	69.063
2	3	- 9	0.9594	585924	0.8691	0.8729	68.791	69.112
3	0	-11	0.9584	2088	0.8710	0.8748	68.952	69.276
0	3	9	0.9577	78321	0.8724	0.8761	69.068	69.394
6	0	2	0.9565	28985	0.8744	0.8782	69.244	69.573
0	1	11	0.9562	327243	0.8750	0.8787	69.293	69.622
4	1	-10	0.9550	50830	0.8772	0.8810	69.485	69.818
1	4	- 7	0.9548	77791	0.8775	0.8813	69.516	69.849
3	2	-10	0.9547	12329	0.8779	0.8817	69.545	69.879
2	2	9	0.9544	63036	0.8783	0.8821	69.581	69.916
5	1	5	0.9536	6524	0.8799	0.8837	69.724	70.061
1	5	0	0.9524	1785	0.8821	0.8859	69.914	70.255
5	0	- 9	0.9523	296434	0.8822	0.8860	69.924	70.266
2	0	10	0.9520	3656	0.8827	0.8865	69.972	70.314
1	5	- 1	0.9514	6797	0.8840	0.8878	70.085	70.429
4	4	- 1	0.9498	16773	0.8868	0.8906	70.338	70.687
4	4	- 2	0.9495	9858	0.8875	0.8913	70.402	70.752
5	3	1	0.9493	199831	0.8878	0.8916	70.428	70.779
0	5	2	0.9492	11608	0.8880	0.8918	70.448	70.799
6	1	- 6	0.9484	8709	0.8895	0.8934	70.586	70.940
0	4	7	0.9476	138187	0.8909	0.8948	70.716	71.072
6	2	- 2	0.9475	98513	0.8912	0.8951	70.745	71.102
1	5	1	0.9460	5723	0.8940	0.8979	71.003	71.365
3	0	9	0.9454	161700	0.8951	0.8990	71.107	71.471
5	2	4	0.9452	14506	0.8954	0.8993	71.134	71.499
6	2	- 3	0.9451	60978	0.8958	0.8996	71.166	71.531
3	2	8	0.9431	86955	0.8996	0.9035	71.526	71.899
1	5	- 2	0.9430	7867	0.8998	0.9037	71.544	71.918
4	4	0	0.9429	78732	0.9000	0.9039	71.562	71.937
6	2	- 1	0.9425	191989	0.9006	0.9045	71.623	71.999

TABLE III CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
4	4	- 3	0.9418	41991	0.9021	0.9060	71.766	72.145
5	3	- 5	0.9410	26316	0.9035	0.9074	71.902	72.284
1	2	10	0.9405	18	0.9045	0.9084	71.998	72.382
3	1	-11	0.9400	1833	0.9054	0.9093	72.089	72.476
3	4	- 6	0.9394	248101	0.9066	0.9105	72.203	72.592
2	4	- 7	0.9388	106843	0.9078	0.9117	72.325	72.718
6	1	2	0.9383	4915	0.9088	0.9127	72.425	72.819
6	2	- 4	0.9355	54917	0.9142	0.9182	72.968	73.376
6	0	- 7	0.9350	5224	0.9152	0.9192	73.071	73.482
5	1	- 9	0.9343	701886	0.9166	0.9205	73.213	73.627
2	1	10	0.9340	1010	0.9171	0.9211	73.268	73.684
1	0	11	0.9337	32599	0.9178	0.9217	73.336	73.754
3	4	4	0.9332	37485	0.9186	0.9226	73.427	73.848
1	5	2	0.9326	112368	0.9199	0.9239	73.560	73.985
2	3	8	0.9314	12929	0.9222	0.9261	73.800	74.231
0	5	3	0.9312	192251	0.9227	0.9267	73.861	74.294
6	2	0	0.9306	560168	0.9239	0.9278	73.982	74.419
5	2	- 8	0.9291	1809	0.9269	0.9309	74.312	74.758
4	4	1	0.9290	65637	0.9271	0.9311	74.330	74.777
1	5	- 3	0.9278	484252	0.9295	0.9335	74.600	75.055
3	1	9	0.9277	3135	0.9296	0.9336	74.609	75.064
4	4	- 4	0.9272	35178	0.9306	0.9346	74.724	75.183
3	3	- 9	0.9260	375090	0.9330	0.9371	75.001	75.469
4	3	5	0.9258	168944	0.9334	0.9375	75.050	75.520
5	3	2	0.9256	639296	0.9338	0.9378	75.089	75.561
6	0	3	0.9229	71328	0.9393	0.9434	75.743	76.238
1	3	9	0.9228	55791	0.9395	0.9436	75.762	76.258
4	3	- 8	0.9213	82278	0.9426	0.9467	76.142	76.653
2	5	- 1	0.9204	61885	0.9445	0.9485	76.368	76.888
1	2	-11	0.9203	0	0.9447	0.9487	76.395	76.915
6	2	- 5	0.9194	1157	0.9465	0.9506	76.630	77.160
5	0	6	0.9191	30642	0.9471	0.9512	76.700	77.233
2	5	0	0.9189	52958	0.9476	0.9517	76.764	77.300
1	4	7	0.9187	45900	0.9480	0.9521	76.819	77.358
2	4	6	0.9185	37851	0.9484	0.9525	76.868	77.409
6	1	- 7	0.9179	6610	0.9496	0.9537	77.029	77.577
1	1	11	0.9166	874635	0.9522	0.9563	77.368	77.932
3	3	7	0.9166	35403	0.9523	0.9564	77.388	77.954
5	3	- 6	0.9154	107069	0.9547	0.9589	77.718	78.299
2	2	-11	0.9154	34525	0.9548	0.9589	77.727	78.309
4	0	8	0.9152	7469	0.9551	0.9592	77.766	78.350
2	5	- 2	0.9152	57503	0.9552	0.9594	77.784	78.369
1	5	3	0.9131	57478	0.9597	0.9638	78.416	79.035
6	2	1	0.9124	36132	0.9610	0.9652	78.611	79.242
1	0	-12	0.9121	23	0.9618	0.9659	78.725	79.363
2	5	1	0.9107	1635623	0.9646	0.9688	79.153	79.819
2	0	-12	0.9096	61	0.9669	0.9711	79.516	80.207
4	4	2	0.9091	99971	0.9680	0.9722	79.699	80.403
4	2	7	0.9089	90076	0.9684	0.9726	79.760	80.468
4	0	-11	0.9089	73250	0.9685	0.9727	79.780	80.491
0	5	4	0.9075	615110	0.9714	0.9756	80.257	81.006
4	4	- 5	0.9068	132	0.9730	0.9772	80.537	81.311
1	5	- 4	0.9068	431382	0.9731	0.9773	80.555	81.329
6	1	3	0.9064	242302	0.9738	0.9780	80.677	81.463
1	3	-10	0.9055	205491	0.9759	0.9801	81.062	81.887
1	4	- 8	0.9051	143035	0.9767	0.9809	81.221	82.061
0	2	11	0.9044	491324	0.9782	0.9824	81.508	82.381
2	5	- 3	0.9036	239114	0.9799	0.9841	81.848	82.762

TABLE III CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
4	2	-10	0.9034	64737	0.9804	0.9846	81.954	82.882
5	1	6	0.9029	265242	0.9815	0.9857	82.179	83.138
3	4	- 7	0.9027	121908	0.9818	0.9860	82.243	83.211
5	2	5	0.9021	422428	0.9831	0.9874	82.537	83.549
5	0	-10	0.8994	26653	0.9890	0.9933	83.978	85.294
6	0	- 8	0.8993	2659	0.9892	0.9935	84.038	85.371
4	1	8	0.8992	31498	0.9895	0.9938	84.120	85.477
2	3	-10	0.8985	332560	0.9910	0.9953	84.574	86.081
6	2	- 6	0.8977	1206	0.9927	0.9970	85.112	86.875
5	3	3	0.8973	109674	0.9937	0.9980	85.444	87.425
0	4	8	0.8966	24760	0.9951	0.9994	85.999	88.633
2	5	2	0.8965	131971	0.9955	0.9998	86.151	89.180
1	1	-12	0.8962	56546	0.9962		86.458	
3	4	5	0.8961	227459	0.9963		86.496	

TABLE IV

CALCULATED POWDER PATTERN OF ALPHA PLUTONIUM
FOR IRON K ALPHA RADIATION

H	K	L	D	I	SIN SQ THETA	THETA
0	0	1	10.7317	853	0.0081	5.179
1	0	0	6.0526	678	0.0256	9.209
1	0	- 1	5.8037	588	0.0279	9.608
0	0	2	5.3659	138	0.0326	10.400
1	0	1	4.8638	1825	0.0397	11.487
1	0	- 2	4.4971	4894	0.0464	12.438
0	1	1	4.3984	8995	0.0485	12.722
1	1	0	3.7714	4393	0.0660	14.882
1	1	- 1	3.7089	16657	0.0682	15.139
1	0	2	3.6610	3608	0.0700	15.342
0	1	2	3.5866	28226	0.0729	15.669
0	0	3	3.5772	7381	0.0733	15.711
1	1	1	3.4244	13760	0.0800	16.431
1	0	- 3	3.3987	22	0.0812	16.559
1	1	- 2	3.2888	18723	0.0867	17.129
2	0	- 1	3.0818	45422	0.0988	18.319
2	0	0	3.0263	14335	0.1024	18.668
1	1	2	2.9158	258705	0.1104	19.402
2	0	- 2	2.9018	54127	0.1114	19.500
0	1	3	2.8730	440708	0.1137	19.704
1	0	3	2.8362	134348	0.1166	19.970
1	1	- 3	2.7780	1098981	0.1216	20.407
2	0	1	2.7687	552974	0.1224	20.479
0	0	4	2.6829	896016	0.1303	21.164
1	0	- 4	2.6626	1905	0.1323	21.334
2	1	- 1	2.5968	137509	0.1391	21.902
2	0	- 3	2.5855	1422436	0.1404	22.002
2	1	0	2.5633	117179	0.1428	22.203
2	1	- 2	2.4863	125975	0.1518	22.929
1	1	3	2.4447	125261	0.1570	23.342
2	0	2	2.4319	13218	0.1586	23.472
0	2	0	2.4110	3158824	0.1614	23.688
2	1	1	2.4010	3544270	0.1628	23.793
0	2	1	2.3524	1211	0.1696	24.316
0	1	4	2.3445	1322720	0.1707	24.403
1	1	- 4	2.3308	925878	0.1727	24.555
1	0	4	2.2858	196356	0.1796	25.072
2	1	- 3	2.2786	509393	0.1807	25.157
2	0	- 4	2.2486	107848	0.1856	25.517
1	2	0	2.2398	992	0.1870	25.624
1	2	- 1	2.2265	864	0.1893	25.788
0	2	2	2.1992	203	0.1940	26.133
2	1	2	2.1714	276566	0.1990	26.493
1	0	- 5	2.1672	122606	0.1998	26.548
1	2	1	2.1602	2713	0.2011	26.642
0	0	5	2.1463	13540	0.2037	26.827
1	2	- 2	2.1249	7340	0.2078	27.120
2	0	3	2.1078	23796	0.2112	27.358
1	1	4	2.0655	222898	0.2199	27.967
3	0	- 1	2.0607	62710	0.2209	28.038
2	1	- 4	2.0379	500	0.2259	28.380
3	0	- 2	2.0300	639225	0.2277	28.500
3	0	0	2.0175	57115	0.2305	28.693
1	2	2	2.0136	5547	0.2314	28.754
0	2	3	1.9993	11379	0.2347	28.979

TABLE IV CONTINUED

H	K	L	D	I	SIN SQ THETA	THETA
1	1	- 5	1.9767	44718	0.2401	29.342
1	2	- 3	1.9665	34	0.2426	29.510
0	1	5	1.9609	50847	0.2440	29.603
2	0	- 5	1.9487	150534	0.2471	29.807
3	0	- 3	1.9346	134068	0.2507	30.047
2	1	3	1.9313	79615	0.2515	30.102
3	0	1	1.9131	76027	0.2564	30.419
1	0	5	1.9041	227992	0.2588	30.579
2	2	- 1	1.8989	71503	0.2602	30.670
3	1	- 1	1.8949	111030	0.2613	30.742
2	2	0	1.8857	22626	0.2639	30.909
3	1	- 2	1.8710	400538	0.2680	31.179
3	1	0	1.8612	298686	0.2709	31.362
2	2	- 2	1.8544	85958	0.2728	31.489
1	2	3	1.8370	214082	0.2781	31.824
2	0	4	1.8305	466841	0.2800	31.949
1	0	- 6	1.8193	54802	0.2835	32.170
2	2	1	1.8182	884324	0.2838	32.191
2	1	- 5	1.8067	267446	0.2874	32.421
3	0	- 4	1.7986	10881	0.2900	32.584
3	1	- 3	1.7955	34915	0.2911	32.649
0	2	4	1.7933	1439713	0.2918	32.694
0	0	6	1.7886	152719	0.2933	32.790
1	2	- 4	1.7872	3065	0.2938	32.820
3	1	1	1.7782	16975	0.2967	33.005
3	0	2	1.7729	7303	0.2985	33.118
1	1	5	1.7710	50746	0.2991	33.158
2	2	- 3	1.7633	2298419	0.3018	33.321
2	2	2	1.7122	21543	0.3201	34.453
2	1	4	1.7113	787058	0.3204	34.473
1	1	- 6	1.7022	41035	0.3238	34.685
2	0	- 6	1.6994	70985	0.3249	34.750
3	1	- 4	1.6852	19660	0.3304	35.084
0	1	6	1.6770	294403	0.3336	35.283
3	1	2	1.6640	24701	0.3389	35.600
1	2	4	1.6588	322630	0.3410	35.728
3	0	- 5	1.6476	0	0.3456	36.009
2	2	- 4	1.6444	177642	0.3470	36.090
1	0	6	1.6273	13715	0.3543	36.530
3	0	3	1.6213	156653	0.3570	36.688
1	2	- 5	1.6118	203077	0.3612	36.940
0	2	5	1.6031	22460	0.3651	37.173
2	0	5	1.6030	15624	0.3651	37.177
2	1	- 6	1.6028	225228	0.3653	37.183
0	3	1	1.5896	5622	0.3713	37.543
2	2	3	1.5869	39582	0.3726	37.619
3	2	- 1	1.5665	104674	0.3824	38.196
1	0	- 7	1.5642	61442	0.3835	38.262
3	1	- 5	1.5591	212252	0.3860	38.410
1	3	0	1.5535	2814	0.3888	38.574
3	2	- 2	1.5529	1069458	0.3891	38.592
1	3	- 1	1.5490	10700	0.3910	38.706
3	2	0	1.5473	95648	0.3919	38.758
4	0	- 1	1.5425	13183	0.3943	38.900
1	1	6	1.5419	137388	0.3947	38.919
4	0	- 2	1.5409	7745	0.3952	38.948
0	3	2	1.5397	18236	0.3958	38.983
3	1	3	1.5367	24053	0.3973	39.074

TABLE IV CONTINUED

H	K	L	D	I	SIN SQ THETA	THETA
0	0	7	1.5331	108370	0.3992	39.184
1	3	1	1.5262	8962	0.4028	39.397
2	1	5	1.5211	926631	0.4055	39.553
2	2	- 5	1.5155	253224	0.4085	39.728
1	3	- 2	1.5136	12283	0.4096	39.790
4	0	0	1.5131	61453	0.4098	39.803
3	2	- 3	1.5089	225721	0.4121	39.938
4	0	- 3	1.5086	32740	0.4123	39.948
3	0	- 6	1.4990	192995	0.4175	40.254
3	2	1	1.4986	128173	0.4178	40.267
2	0	- 7	1.4964	83059	0.4190	40.339
1	2	5	1.4943	384584	0.4202	40.409
1	1	- 7	1.4879	794067	0.4238	40.619
3	0	4	1.4743	28981	0.4317	41.074
1	3	2	1.4717	173641	0.4332	41.160
4	1	- 1	1.4692	846808	0.4347	41.247
4	1	- 2	1.4678	1418703	0.4355	41.295
0	3	3	1.4661	296663	0.4365	41.351
0	1	7	1.4610	1681575	0.4395	41.528
2	2	4	1.4579	791200	0.4414	41.637
4	0	1	1.4577	50534	0.4416	41.644
1	3	- 3	1.4530	744745	0.4444	41.808
1	2	- 6	1.4522	92946	0.4449	41.836
4	0	- 4	1.4509	27036	0.4457	41.883
4	1	0	1.4437	127281	0.4501	42.139
3	2	- 4	1.4417	18480	0.4514	42.213
4	1	- 3	1.4398	20888	0.4526	42.282
0	2	6	1.4365	259544	0.4547	42.401
3	1	- 6	1.4315	2012886	0.4579	42.585
2	1	- 7	1.4292	89344	0.4594	42.669
3	2	2	1.4283	12425	0.4599	42.701
2	3	- 1	1.4251	94493	0.4620	42.818
2	3	0	1.4195	80762	0.4656	43.029
1	0	7	1.4188	34992	0.4661	43.058
2	0	6	1.4181	28852	0.4666	43.083
3	1	4	1.4098	688417	0.4720	43.398
2	3	- 2	1.4060	87425	0.4746	43.544
1	3	3	1.3984	87235	0.4798	43.843
4	1	1	1.3953	57211	0.4819	43.963
2	3	1	1.3901	2477630	0.4856	44.173
4	1	- 4	1.3894	149541	0.4860	44.201
2	2	- 6	1.3890	121606	0.4863	44.215
4	0	2	1.3843	75617	0.4896	44.404
0	3	4	1.3788	929317	0.4935	44.629
4	0	- 5	1.3762	100	0.4954	44.737
1	3	- 4	1.3760	651311	0.4955	44.743
1	0	- 8	1.3702	107828	0.4998	44.988
2	3	- 3	1.3651	360077	0.5035	45.202
3	0	- 7	1.3621	91723	0.5057	45.329
1	1	7	1.3611	2470	0.5065	45.371
2	1	6	1.3605	4	0.5069	45.397
3	2	- 5	1.3603	0	0.5070	45.404
1	2	6	1.3488	23642	0.5157	45.901
3	2	3	1.3454	270165	0.5184	46.053
0	0	8	1.3415	18536	0.5214	46.226
2	3	2	1.3409	197566	0.5218	46.251
3	0	5	1.3398	170209	0.5227	46.302
2	2	5	1.3349	26983	0.5266	46.522

TABLE IV CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
2	0	- 8	1.3313	156740	0.5294		46.685	
4	1	2	1.3306	1030598	0.5300		46.718	
4	1	- 5	1.3234	73089	0.5358		47.051	
1	1	- 8	1.3180	119555	0.5401		47.302	
1	3	4	1.3148	161020	0.5427		47.452	
1	2	- 7	1.3122	106441	0.5449		47.576	
3	1	- 7	1.3108	225898	0.5461		47.645	
2	3	- 4	1.3076	362	0.5487		47.797	
4	0	3	1.3014	242323	0.5540		48.097	
4	2	- 1	1.2994	22878	0.5557		48.200	
4	2	- 2	1.2984	13443	0.5566		48.248	
0	2	7	1.2937	188216	0.5606		48.481	
4	0	- 6	1.2928	24498	0.5614		48.527	
0	1	8	1.2924	253807	0.5617		48.547	
1	3	- 5	1.2910	32617	0.5629		48.616	
3	1	5	1.2909	93716	0.5631		48.624	
0	3	5	1.2866	37146	0.5668		48.841	
2	1	- 8	1.2833	23490	0.5697		49.009	
4	2	0	1.2816	106909	0.5712		49.094	
4	2	- 3	1.2789	56978	0.5737		49.238	
2	3	3	1.2781	58337	0.5744		49.276	
3	2	- 6	1.2730	336147	0.5790		49.543	
2	2	- 7	1.2714	144700	0.5804		49.627	
3	3	- 1	1.2674	81663	0.5841		49.843	
2	0	7	1.2672	72660	0.5843		49.852	
3	3	- 2	1.2602	295343	0.5909		50.235	
3	2	4	1.2578	50585	0.5931		50.366	
3	3	0	1.2571	220471	0.5937		50.400	
1	0	8	1.2566	111777	0.5942		50.431	
4	1	3	1.2565	77074	0.5943		50.436	
4	1	- 6	1.2487	18659	0.6018		50.872	
4	2	1	1.2474	88353	0.6030		50.942	
4	2	- 4	1.2432	47317	0.6071		51.185	
3	0	- 8	1.2400	22320	0.6102		51.368	
2	3	- 5	1.2400	198778	0.6103		51.370	
5	0	- 2	1.2363	8879	0.6139		51.582	
3	3	- 3	1.2363	25992	0.6139		51.582	
5	0	- 1	1.2312	417303	0.6189		51.881	
3	3	1	1.2306	12668	0.6195		51.916	
1	3	5	1.2282	37912	0.6220		52.060	
2	1	7	1.2256	114865	0.6238	0.6263	52.167	52.318
5	0	- 3	1.2252	38973	0.6242	0.6268	52.194	52.344
1	2	7	1.2228	61511	0.6267	0.6292	52.339	52.490
2	2	6	1.2223	50721	0.6271	0.6297	52.365	52.516
3	0	6	1.2203	18727	0.6292	0.6318	52.487	52.639
1	0	- 9	1.2181	3148	0.6315	0.6341	52.625	52.778
1	1	8	1.2160	252123	0.6337	0.6363	52.756	52.910
4	0	4	1.2159	14846	0.6337	0.6363	52.757	52.910
5	0	0	1.2105	83702	0.6394	0.6420	53.097	53.252
2	3	4	1.2078	593348	0.6423	0.6449	53.269	53.425
4	0	- 7	1.2073	29044	0.6428	0.6455	53.299	53.456
0	4	0	1.2055	1944792	0.6448	0.6474	53.415	53.572
1	3	- 6	1.2046	30980	0.6458	0.6484	53.476	53.633
3	1	- 8	1.2009	5067	0.6497	0.6524	53.711	53.870
4	2	2	1.2005	133424	0.6501	0.6528	53.737	53.896
5	0	- 4	1.1991	16546	0.6517	0.6544	53.832	53.992
3	3	- 4	1.1985	14882	0.6523	0.6550	53.868	54.028
0	4	1	1.1980	750	0.6529	0.6556	53.903	54.064

TABLE IV CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
5	1	- 2	1.1976	17435	0.6533	0.6560	53.929	54.089
2	0	- 9	1.1959	22105	0.6552	0.6579	54.042	54.203
0	3	6	1.1955	223160	0.6556	0.6582	54.064	54.225
4	2	- 5	1.1952	176	0.6559	0.6586	54.086	54.247
5	1	- 1	1.1930	496283	0.6584	0.6611	54.235	54.397
0	0	9	1.1924	24	0.6590	0.6617	54.271	54.433
1	2	- 8	1.1912	190564	0.6603	0.6630	54.350	54.512
3	3	2	1.1908	18762	0.6608	0.6635	54.379	54.542
5	1	- 3	1.1874	21827	0.6645	0.6672	54.606	54.771
3	2	- 7	1.1859	162253	0.6662	0.6690	54.710	54.875
3	1	6	1.1830	502	0.6695	0.6722	54.908	55.074
1	4	0	1.1823	623	0.6703	0.6731	54.959	55.126
1	1	- 9	1.1810	36496	0.6718	0.6746	55.049	55.217
1	4	- 1	1.1803	543	0.6726	0.6753	55.096	55.264
4	1	4	1.1790	102441	0.6740	0.6768	55.184	55.352
5	0	1	1.1764	233643	0.6770	0.6798	55.369	55.538
0	4	2	1.1762	128	0.6773	0.6801	55.385	55.554
5	1	0	1.1741	990	0.6797	0.6825	55.534	55.704
0	2	8	1.1722	32868	0.6819	0.6847	55.666	55.837
4	1	- 7	1.1712	143721	0.6831	0.6859	55.743	55.914
3	2	5	1.1711	301872	0.6832	0.6860	55.747	55.919
1	4	1	1.1701	1721	0.6844	0.6872	55.819	55.991
2	3	- 6	1.1677	172574	0.6871	0.6899	55.990	56.163
2	2	- 8	1.1654	278265	0.6899	0.6927	56.159	56.333
1	4	- 2	1.1644	4678	0.6911	0.6939	56.235	56.410
5	1	- 4	1.1636	23763	0.6920	0.6948	56.292	56.467
5	0	- 5	1.1607	1556120	0.6955	0.6983	56.506	56.683
2	1	- 9	1.1607	714338	0.6955	0.6983	56.508	56.685
0	1	9	1.1575	95433	0.6993	0.7021	56.745	56.923
3	3	- 5	1.1505	163702	0.7078	0.7107	57.282	57.464
4	2	3	1.1452	431770	0.7144	0.7173	57.695	57.880
1	4	2	1.1450	3591	0.7147	0.7176	57.713	57.898
1	3	6	1.1436	106246	0.7165	0.7194	57.830	58.016
2	0	8	1.1429	1361343	0.7173	0.7202	57.881	58.067
5	1	1	1.1429	242847	0.7173	0.7203	57.883	58.069
0	4	3	1.1424	7382	0.7180	0.7209	57.924	58.110
3	3	3	1.1415	18616	0.7192	0.7221	57.998	58.185
4	2	- 6	1.1393	43698	0.7218	0.7248	58.170	58.358
1	4	- 3	1.1362	22	0.7259	0.7288	58.428	58.619
2	3	5	1.1350	718949	0.7273	0.7303	58.522	58.713
3	0	- 9	1.1329	445535	0.7300	0.7330	58.696	58.888
4	0	5	1.1325	744132	0.7305	0.7335	58.728	58.921
5	0	2	1.1322	470	0.7309	0.7339	58.754	58.946
5	1	- 5	1.1285	31896	0.7358	0.7388	59.066	59.262
1	0	9	1.1271	5928	0.7376	0.7406	59.188	59.384
4	0	- 8	1.1243	162131	0.7413	0.7443	59.427	59.625
2	4	- 1	1.1227	47030	0.7434	0.7465	59.567	59.766
2	2	7	1.1217	130032	0.7447	0.7477	59.650	59.849
1	3	- 7	1.1210	619451	0.7456	0.7487	59.713	59.913
2	4	0	1.1199	14910	0.7471	0.7501	59.807	60.008
3	0	7	1.1158	113	0.7526	0.7557	60.175	60.379
1	2	8	1.1143	200315	0.7546	0.7577	60.307	60.512
5	0	- 6	1.1137	43668	0.7555	0.7586	60.364	60.569
2	4	- 2	1.1133	56906	0.7560	0.7591	60.401	60.607
4	3	- 1	1.1129	662672	0.7565	0.7596	60.431	60.637
4	3	- 2	1.1123	1110474	0.7573	0.7604	60.486	60.692
2	1	8	1.1121	15622	0.7576	0.7607	60.507	60.713
1	4	3	1.1094	142100	0.7613	0.7644	60.750	60.959

TABLE IV CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
0	3	7	1.1094	1317761	0.7613	0.7644	60.756	60.965
2	4	1	1.1053	588671	0.7670	0.7701	61.138	61.351
3	1	- 9	1.1029	452427	0.7703	0.7735	61.364	61.579
3	2	- 8	1.1027	40053	0.7706	0.7737	61.383	61.597
4	1	5	1.1025	203764	0.7708	0.7740	61.399	61.613
5	1	2	1.1022	771011	0.7712	0.7744	61.426	61.640
4	3	0	1.1017	100045	0.7719	0.7751	61.473	61.688
5	2	- 2	1.1001	15936	0.7742	0.7774	61.630	61.847
4	3	- 3	1.1000	16430	0.7744	0.7776	61.643	61.860
0	4	4	1.0996	962125	0.7749	0.7781	61.679	61.896
1	4	- 4	1.0982	2050	0.7769	0.7801	61.817	62.035
1	1	9	1.0975	67224	0.7779	0.7811	61.885	62.104
5	2	- 1	1.0965	749121	0.7793	0.7825	61.979	62.199
3	3	- 6	1.0963	1585620	0.7797	0.7828	62.004	62.224
1	0	-10	1.0959	619882	0.7802	0.7834	62.042	62.263
2	3	- 7	1.0952	70408	0.7811	0.7843	62.105	62.326
4	1	- 8	1.0949	99090	0.7816	0.7848	62.138	62.359
2	4	- 3	1.0926	1543386	0.7849	0.7881	62.370	62.594
5	2	- 3	1.0922	69981	0.7854	0.7886	62.405	62.629
3	2	6	1.0888	33634	0.7904	0.7936	62.752	62.980
1	2	- 9	1.0872	5655	0.7927	0.7959	62.917	63.145
3	1	7	1.0870	42572	0.7929	0.7962	62.933	63.162
3	3	4	1.0865	543947	0.7938	0.7970	62.993	63.223
4	2	4	1.0857	26668	0.7949	0.7982	63.073	63.304
5	1	- 6	1.0851	128700	0.7958	0.7990	63.134	63.365
2	0	-10	1.0836	55075	0.7980	0.8012	63.291	63.524
5	2	0	1.0818	150394	0.8006	0.8039	63.480	63.715
5	0	3	1.0815	14287	0.8011	0.8043	63.513	63.748
2	4	2	1.0801	14590	0.8032	0.8065	63.665	63.901
4	3	1	1.0798	45295	0.8036	0.8069	63.696	63.933
4	2	- 7	1.0795	52194	0.8040	0.8073	63.724	63.962
4	3	- 4	1.0770	118492	0.8078	0.8111	63.996	64.236
5	2	- 4	1.0736	29744	0.8129	0.8162	64.371	64.615
0	0	10	1.0732	177807	0.8136	0.8169	64.420	64.665
2	2	- 9	1.0713	39743	0.8164	0.8197	64.628	64.875
0	2	9	1.0688	44	0.8202	0.8235	64.910	65.160
1	1	-10	1.0686	246193	0.8205	0.8238	64.933	65.184
1	4	4	1.0663	220520	0.8241	0.8275	65.203	65.456
1	3	7	1.0637	1965	0.8282	0.8316	65.511	65.768
2	3	6	1.0634	3	0.8286	0.8320	65.545	65.802
2	4	- 4	1.0624	121693	0.8301	0.8335	65.657	65.916
5	0	- 7	1.0614	51840	0.8318	0.8352	65.785	66.046
5	2	1	1.0573	420424	0.8382	0.8417	66.285	66.552
2	1	-10	1.0572	397501	0.8383	0.8417	66.288	66.555
5	1	3	1.0553	131038	0.8414	0.8448	66.530	66.800
4	0	6	1.0539	9413	0.8436	0.8470	66.705	66.977
1	4	- 5	1.0535	139844	0.8443	0.8477	66.757	67.030
0	4	5	1.0511	15488	0.8482	0.8516	67.066	67.344
4	3	2	1.0489	823554	0.8516	0.8551	67.344	67.625
0	1	10	1.0475	339	0.8539	0.8574	67.526	67.810
2	4	3	1.0464	27369	0.8557	0.8592	67.672	67.958
4	0	- 9	1.0462	95192	0.8560	0.8595	67.701	67.987
5	2	- 5	1.0458	2802011	0.8567	0.8601	67.752	68.039
4	3	- 5	1.0454	58468	0.8574	0.8609	67.815	68.103
1	3	- 8	1.0427	95717	0.8618	0.8653	68.175	68.468
3	4	- 1	1.0405	72624	0.8654	0.8689	68.478	68.776
3	0	-10	1.0396	6758	0.8669	0.8705	68.605	68.905
2	0	9	1.0393	34554	0.8674	0.8710	68.647	68.947

TABLE IV CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
3	3	- 7	1.0391	181053	0.8677	0.8713	68.674	68.974
5	1	- 7	1.0366	9556	0.8721	0.8756	69.042	69.349
3	4	- 2	1.0365	743731	0.8721	0.8757	69.049	69.355
3	4	0	1.0348	66581	0.8750	0.8785	69.292	69.603
2	2	8	1.0327	2453154	0.8785	0.8821	69.601	69.917
6	0	- 2	1.0304	53909	0.8826	0.8862	69.962	70.284
0	3	8	1.0299	203997	0.8834	0.8870	70.031	70.355
4	1	6	1.0296	164046	0.8839	0.8875	70.079	70.403
3	3	5	1.0291	75342	0.8847	0.8883	70.150	70.475
5	0	4	1.0275	7934	0.8875	0.8911	70.404	70.734
6	0	- 3	1.0273	33349	0.8879	0.8915	70.439	70.770
3	2	- 9	1.0254	803200	0.8912	0.8949	70.743	71.079
2	3	- 8	1.0253	18906	0.8914	0.8950	70.755	71.092
2	4	- 5	1.0252	177256	0.8915	0.8952	70.770	71.107
4	2	5	1.0251	1341525	0.8917	0.8954	70.789	71.126
5	2	2	1.0248	848	0.8921	0.8958	70.826	71.164
3	0	8	1.0247	47533	0.8924	0.8960	70.848	71.187
6	0	- 1	1.0240	104935	0.8936	0.8972	70.958	71.299
3	4	- 3	1.0231	158194	0.8951	0.8988	71.105	71.449
4	1	- 9	1.0224	11235	0.8963	0.9000	71.216	71.562
1	0	10	1.0214	9	0.8981	0.9018	71.385	71.734
1	2	9	1.0210	10690	0.8988	0.9025	71.453	71.804
3	4	1	1.0199	89995	0.9008	0.9045	71.640	71.995
4	2	- 8	1.0189	292392	0.9025	0.9062	71.804	72.162
1	4	5	1.0185	270246	0.9032	0.9069	71.874	72.234
3	1	-10	1.0163	403382	0.9072	0.9109	72.267	72.635
2	1	9	1.0160	991	0.9077	0.9114	72.315	72.684
6	0	- 4	1.0150	29963	0.9095	0.9132	72.491	72.865
3	2	7	1.0126	204	0.9138	0.9176	72.930	73.314
4	3	3	1.0115	62301	0.9159	0.9196	73.140	73.530
5	2	- 6	1.0110	78788	0.9167	0.9204	73.222	73.613
6	0	0	1.0088	305253	0.9208	0.9245	73.654	74.056
6	1	- 2	1.0076	60878	0.9229	0.9267	73.878	74.287
4	3	- 6	1.0074	15100	0.9233	0.9271	73.925	74.335
5	0	- 8	1.0068	985	0.9243	0.9281	74.033	74.446
2	4	4	1.0068	559763	0.9244	0.9282	74.042	74.455
5	1	4	1.0049	46758	0.9278	0.9316	74.414	74.838
1	4	- 6	1.0049	65829	0.9279	0.9316	74.420	74.844
6	1	- 3	1.0047	6476	0.9282	0.9320	74.458	74.883
3	1	8	1.0023	56513	0.9327	0.9365	74.960	75.400
6	1	- 1	1.0017	259845	0.9339	0.9377	75.097	75.542
3	4	- 4	1.0014	13115	0.9344	0.9382	75.160	75.606
0	4	6	0.9996	184395	0.9377	0.9415	75.541	76.000
1	1	10	0.9992	9954	0.9384	0.9422	75.630	76.092
1	2	-10	0.9977	1119641	0.9414	0.9452	75.991	76.466
3	4	2	0.9969	8845	0.9429	0.9467	76.172	76.654
1	0	-11	0.9957	0	0.9452	0.9490	76.457	76.950
2	3	7	0.9951	93185	0.9462	0.9500	76.585	77.083
6	0	- 5	0.9945	629	0.9473	0.9512	76.733	77.237
6	1	- 4	0.9932	123188	0.9498	0.9537	77.051	77.568
1	3	8	0.9900	204859	0.9561	0.9600	77.907	78.464
2	0	-11	0.9895	18773	0.9571	0.9609	78.039	78.603
2	2	-10	0.9884	99683	0.9592	0.9631	78.344	78.923
6	1	0	0.9874	30917	0.9611	0.9650	78.624	79.218
5	2	3	0.9868	25869	0.9623	0.9662	78.801	79.406
6	0	1	0.9857	19644	0.9643	0.9682	79.109	79.732
5	1	- 8	0.9856	414755	0.9646	0.9686	79.160	79.787
2	4	- 6	0.9832	87306	0.9692	0.9732	79.897	80.573

TABLE IV CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
3	3	- 8	0.9818	4128	0.9721	0.9761	80.383	81.097
4	0	7	0.9813	48965	0.9730	0.9769	80.534	81.261
0	2	10	0.9804	322399	0.9748	0.9787	80.860	81.616
5	3	- 2	0.9800	14210	0.9757	0.9797	81.035	81.807
5	3	- 1	0.9774	404797	0.9808	0.9848	82.031	82.913
0	0	11	0.9756	267029	0.9844	0.9884	82.832	83.828
1	1	-11	0.9751	195963	0.9855	0.9895	83.075	84.110
5	3	- 3	0.9744	17820	0.9869	0.9909	83.433	84.538
4	0	-10	0.9743	35182	0.9870	0.9910	83.458	84.569
6	1	- 5	0.9740	20153	0.9876	0.9917	83.616	84.760
3	4	- 5	0.9729	0	0.9899	0.9940	84.242	85.546
5	0	5	0.9728	229561	0.9902	0.9942	84.321	85.648
3	3	6	0.9719	410	0.9919	0.9959	84.829	86.337
5	2	- 7	0.9714	94192	0.9930	0.9970	85.187	86.864
1	3	- 9	0.9708	29829	0.9942	0.9982	85.632	87.606
4	3	4	0.9697	83756	0.9964		86.567	
2	1	-11	0.9693	45854	0.9973		87.049	
1	4	6	0.9687	17129	0.9986		87.857	

TABLE V

CALCULATED POWDER PATTERN OF ALPHA PLUTONIUM
FOR CHROMIUM K ALPHA RADIATION

H	K	L	D	I	SIN SQ THETA	THETA
0	0	1	10.7317	853	0.0114	6.127
1	0	0	6.0526	678	0.0358	10.909
1	0	- 1	5.8037	588	0.0390	11.383
0	0	2	5.3659	138	0.0456	12.326
1	0	1	4.8638	1825	0.0555	13.622
1	0	- 2	4.4971	4894	0.0649	14.756
0	1	1	4.3984	8995	0.0678	15.095
1	1	0	3.7714	4393	0.0922	17.681
1	1	- 1	3.7089	16657	0.0954	17.989
1	0	2	3.6610	3608	0.0979	18.233
0	1	2	3.5866	28226	0.1020	18.625
0	0	3	3.5772	7381	0.1025	18.676
1	1	1	3.4244	13760	0.1119	19.542
1	0	- 3	3.3987	22	0.1136	19.696
1	1	- 2	3.2888	18723	0.1213	20.383
2	0	- 1	3.0818	45422	0.1381	21.819
2	0	0	3.0263	14335	0.1433	22.241
1	1	2	2.9158	258705	0.1543	23.132
2	0	- 2	2.9018	54127	0.1558	23.250
0	1	3	2.8730	440708	0.1590	23.497
1	0	3	2.8362	134348	0.1631	23.821
1	1	- 3	2.7780	1098981	0.1700	24.351
2	0	1	2.7687	552974	0.1712	24.439
0	0	4	2.6829	896016	0.1823	25.274
1	0	- 4	2.6626	1905	0.1851	25.481
2	1	- 1	2.5968	137509	0.1946	26.175
2	0	- 3	2.5855	1422436	0.1963	26.297
2	1	0	2.5633	117179	0.1997	26.543
2	1	- 2	2.4863	125975	0.2122	27.432
1	1	3	2.4447	125261	0.2195	27.940
2	0	2	2.4319	13218	0.2219	28.100
0	2	0	2.4110	3158824	0.2257	28.366
2	1	1	2.4010	3544270	0.2276	28.494
0	2	1	2.3524	1211	0.2371	29.140
0	1	4	2.3445	1322720	0.2387	29.247
1	1	- 4	2.3308	925878	0.2415	29.435
1	0	4	2.2858	196356	0.2511	30.074
2	1	- 3	2.2786	509393	0.2527	30.178
2	0	- 4	2.2486	107848	0.2595	30.625
1	2	0	2.2398	992	0.2615	30.757
1	2	- 1	2.2265	864	0.2647	30.962
0	2	2	2.1992	203	0.2713	31.389
2	1	2	2.1714	276566	0.2783	31.838
1	0	- 5	2.1672	122606	0.2794	31.907
1	2	1	2.1602	2713	0.2812	32.023
0	0	5	2.1463	13540	0.2848	32.254
1	2	- 2	2.1249	7340	0.2906	32.620
2	0	3	2.1078	23796	0.2953	32.918
1	1	4	2.0655	222898	0.3075	33.681
3	0	- 1	2.0607	62710	0.3090	33.770
2	1	- 4	2.0379	500	0.3159	34.200
3	0	- 2	2.0300	639225	0.3184	34.351
3	0	0	2.0175	57115	0.3223	34.594
1	2	2	2.0136	5547	0.3236	34.672
0	2	3	1.9993	11379	0.3283	34.955

TABLE V CONTINUED

H	K	L	D	I	SIN SQ THETA	THETA
1	1	- 5	1.9767	44718	0.3358	35.413
1	2	- 3	1.9665	34	0.3393	35.626
0	1	5	1.9609	50847	0.3412	35.744
2	0	- 5	1.9487	150534	0.3455	36.002
3	0	- 3	1.9346	134068	0.3506	36.307
2	1	3	1.9313	79615	0.3518	36.377
3	0	1	1.9131	76027	0.3585	36.781
1	0	5	1.9041	227992	0.3619	36.983
2	2	- 1	1.8989	71503	0.3639	37.100
3	1	- 1	1.8949	111030	0.3654	37.192
2	2	0	1.8857	22626	0.3690	37.405
3	1	- 2	1.8710	400538	0.3748	37.751
3	1	0	1.8612	298686	0.3788	37.985
2	2	- 2	1.8544	85958	0.3815	38.147
1	2	3	1.8370	214082	0.3888	38.577
2	0	4	1.8305	466841	0.3916	38.739
1	0	- 6	1.8193	54802	0.3964	39.022
2	2	1	1.8182	884324	0.3969	39.049
2	1	- 5	1.8067	267446	0.4020	39.346
3	0	- 4	1.7986	10881	0.4056	39.557
3	1	- 3	1.7955	34915	0.4070	39.641
0	2	4	1.7933	1439713	0.4080	39.699
0	0	6	1.7886	152719	0.4101	39.823
1	2	- 4	1.7872	3065	0.4108	39.861
3	1	1	1.7782	16975	0.4149	40.102
3	0	2	1.7729	7303	0.4174	40.248
1	1	5	1.7710	50746	0.4183	40.300
2	2	- 3	1.7633	2298419	0.4220	40.512
2	2	2	1.7122	21543	0.4476	41.991
2	1	4	1.7113	787058	0.4480	42.016
1	1	- 6	1.7022	41035	0.4528	42.294
2	0	- 6	1.6994	70985	0.4543	42.380
3	1	- 4	1.6852	19660	0.4620	42.821
0	1	6	1.6770	294403	0.4666	43.083
3	1	2	1.6640	24701	0.4739	43.503
1	2	4	1.6588	322630	0.4768	43.672
3	0	- 5	1.6476	0	0.4833	44.045
2	2	- 4	1.6444	177642	0.4852	44.153
1	0	6	1.6273	13715	0.4955	44.741
3	0	3	1.6213	156653	0.4992	44.953
1	2	- 5	1.6118	203077	0.5051	45.291
0	2	5	1.6031	22460	0.5105	45.603
2	0	5	1.6030	15624	0.5106	45.609
2	1	- 6	1.6028	225228	0.5108	45.617
0	3	1	1.5896	5622	0.5193	46.104
2	2	3	1.5869	39582	0.5210	46.206
3	2	- 1	1.5665	104674	0.5347	46.989
1	0	- 7	1.5642	61442	0.5363	47.080
3	1	- 5	1.5591	212252	0.5398	47.281
1	3	0	1.5535	2814	0.5437	47.506
3	2	- 2	1.5529	1069458	0.5441	47.530
1	3	- 1	1.5490	10700	0.5468	47.686
3	2	0	1.5473	95648	0.5481	47.758
4	0	- 1	1.5425	13183	0.5514	47.952
1	1	6	1.5419	137388	0.5519	47.979
4	0	- 2	1.5409	7745	0.5526	48.019
0	3	2	1.5397	18236	0.5534	48.067
3	1	3	1.5367	24053	0.5556	48.192

TABLE V CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
0	0	7	1.5331	108370	0.5582		48.344	
1	3	1	1.5262	8962	0.5633		48.638	
2	1	5	1.5211	926631	0.5671		48.854	
2	2	- 5	1.5155	253224	0.5712		49.096	
1	3	- 2	1.5136	12283	0.5727		49.183	
4	0	0	1.5131	61453	0.5731		49.201	
3	2	- 3	1.5089	225721	0.5763		49.389	
4	0	- 3	1.5086	32740	0.5765		49.403	
3	0	- 6	1.4990	192995	0.5839		49.830	
3	2	1	1.4986	128173	0.5842		49.849	
2	0	- 7	1.4964	83059	0.5859		49.948	
1	2	5	1.4943	384584	0.5876		50.046	
1	1	- 7	1.4879	794067	0.5927		50.342	
3	0	4	1.4743	28981	0.6037		50.984	
1	3	2	1.4717	173641	0.6058		51.106	
4	1	- 1	1.4692	846808	0.6079		51.229	
4	1	- 2	1.4678	1418703	0.6090		51.297	
0	3	3	1.4661	296663	0.6104		51.378	
0	1	7	1.4610	1681575	0.6147		51.629	
2	2	4	1.4579	791200	0.6173		51.784	
4	0	1	1.4577	50534	0.6175		51.794	
1	3	- 3	1.4530	744745	0.6214		52.029	
1	2	- 6	1.4522	92946	0.6221		52.070	
4	0	- 4	1.4509	27036	0.6233		52.136	
4	1	0	1.4437	127281	0.6295		52.505	
3	2	- 4	1.4417	18480	0.6313		52.612	
4	1	- 3	1.4398	20888	0.6330		52.711	
0	2	6	1.4365	259544	0.6358		52.883	
3	1	- 6	1.4315	2012886	0.6403		53.149	
2	1	- 7	1.4292	89344	0.6424		53.271	
3	2	2	1.4283	12425	0.6432		53.319	
2	3	- 1	1.4251	94493	0.6460		53.490	
2	3	0	1.4195	80762	0.6511		53.797	
1	0	7	1.4188	34992	0.6518		53.839	
2	0	6	1.4181	28852	0.6525		53.876	
3	1	4	1.4098	688417	0.6601		54.338	
2	3	- 2	1.4060	87425	0.6637		54.554	
1	3	3	1.3984	87235	0.6710		54.998	
4	1	1	1.3953	57211	0.6739		55.177	
2	3	1	1.3901	2477630	0.6790		55.491	
4	1	- 4	1.3894	149541	0.6797		55.532	
2	2	- 6	1.3890	121606	0.6801		55.554	
4	0	2	1.3843	75617	0.6847		55.838	
0	3	4	1.3788	929317	0.6901		56.176	
4	0	- 5	1.3762	100	0.6928		56.339	
1	3	- 4	1.3760	651311	0.6929		56.349	
1	0	- 8	1.3702	107828	0.6989		56.721	
2	3	- 3	1.3651	360077	0.7033	0.7057	56.998	57.148
3	0	- 7	1.3621	91723	0.7064	0.7088	57.192	57.344
1	1	7	1.3611	2470	0.7075	0.7099	57.257	57.409
2	1	6	1.3605	4	0.7081	0.7105	57.296	57.448
3	2	- 5	1.3603	0	0.7083	0.7107	57.307	57.459
1	2	6	1.3488	23642	0.7204	0.7228	58.076	58.233
3	2	3	1.3454	270165	0.7241	0.7265	58.312	58.470
0	0	8	1.3415	18536	0.7283	0.7308	58.584	58.744
2	3	2	1.3409	197566	0.7289	0.7314	58.622	58.782
3	0	5	1.3398	170209	0.7302	0.7326	58.703	58.864
2	2	5	1.3349	26983	0.7355	0.7380	59.050	59.213

TABLE V CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
2	0	- 8	1.3313	156740	0.7395	0.7420	59.308	59.473
4	1	2	1.3306	1030598	0.7403	0.7428	59.360	59.524
4	1	- 5	1.3234	73089	0.7484	0.7509	59.892	60.060
1	1	- 8	1.3180	119555	0.7545	0.7570	60.297	60.468
1	3	4	1.3148	161020	0.7581	0.7607	60.540	60.713
1	2	- 7	1.3122	106441	0.7611	0.7637	60.741	60.916
3	1	- 7	1.3108	225898	0.7628	0.7654	60.854	61.029
2	3	- 4	1.3076	362	0.7665	0.7691	61.104	61.281
4	0	3	1.3014	242323	0.7738	0.7764	61.599	61.780
4	2	- 1	1.2994	22878	0.7763	0.7789	61.771	61.953
4	2	- 2	1.2984	13443	0.7774	0.7801	61.851	62.033
0	2	7	1.2937	188216	0.7831	0.7857	62.240	62.426
4	0	- 6	1.2928	24498	0.7842	0.7869	62.319	62.505
0	1	8	1.2924	253807	0.7847	0.7873	62.352	62.538
1	3	- 5	1.2910	32617	0.7863	0.7890	62.468	62.655
3	1	5	1.2909	93716	0.7865	0.7892	62.481	62.669
0	3	5	1.2866	37146	0.7918	0.7945	62.851	63.041
2	1	- 8	1.2833	23490	0.7958	0.7985	63.138	63.331
4	2	0	1.2816	106909	0.7979	0.8006	63.283	63.477
4	2	- 3	1.2789	56978	0.8013	0.8041	63.531	63.728
2	3	3	1.2781	58337	0.8023	0.8050	63.599	63.795
3	2	- 6	1.2730	336147	0.8087	0.8114	64.063	64.264
2	2	- 7	1.2714	144700	0.8107	0.8135	64.212	64.414
3	3	- 1	1.2674	81663	0.8159	0.8187	64.593	64.798
2	0	7	1.2672	72660	0.8161	0.8189	64.609	64.815
3	3	- 2	1.2602	295343	0.8253	0.8281	65.295	65.507
3	2	4	1.2578	50585	0.8285	0.8313	65.533	65.748
3	3	0	1.2571	220471	0.8293	0.8321	65.594	65.810
1	0	8	1.2566	111777	0.8300	0.8329	65.653	65.869
4	1	3	1.2565	77074	0.8301	0.8330	65.661	65.877
4	1	- 6	1.2487	18659	0.8406	0.8434	66.465	66.690
4	2	1	1.2474	88353	0.8422	0.8451	66.597	66.823
4	2	- 4	1.2432	47317	0.8480	0.8509	67.055	67.286
3	0	- 8	1.2400	22320	0.8524	0.8553	67.406	67.641
2	3	- 5	1.2400	198778	0.8524	0.8553	67.409	67.644
5	0	- 2	1.2363	8879	0.8575	0.8604	67.818	68.058
3	3	- 3	1.2363	25992	0.8575	0.8604	67.820	68.060
5	0	- 1	1.2312	417303	0.8645	0.8675	68.405	68.653
3	3	1	1.2306	12668	0.8654	0.8683	68.476	68.724
1	3	5	1.2282	37912	0.8688	0.8717	68.762	69.014
2	1	7	1.2256	114865	0.8725	0.8755	69.080	69.336
5	0	- 3	1.2252	38973	0.8731	0.8761	69.134	69.391
1	2	7	1.2228	61511	0.8766	0.8795	69.430	69.691
2	2	6	1.2223	50721	0.8772	0.8802	69.484	69.746
3	0	6	1.2203	18727	0.8801	0.8831	69.738	70.003
1	0	- 9	1.2181	3148	0.8833	0.8863	70.026	70.296
1	1	8	1.2160	252123	0.8864	0.8894	70.303	70.577
4	0	4	1.2159	14846	0.8864	0.8894	70.304	70.578
5	0	0	1.2105	83702	0.8944	0.8974	71.036	71.322
2	3	4	1.2078	593348	0.8984	0.9015	71.415	71.707
4	0	- 7	1.2073	29044	0.8991	0.9022	71.484	71.776
0	4	0	1.2055	1944792	0.9018	0.9049	71.742	72.039
1	3	- 6	1.2046	30980	0.9033	0.9063	71.879	72.178
3	1	- 8	1.2009	5067	0.9088	0.9118	72.418	72.728
4	2	2	1.2005	133424	0.9094	0.9124	72.478	72.789
5	0	- 4	1.1991	16546	0.9116	0.9147	72.699	73.015
3	3	- 4	1.1985	14882	0.9124	0.9155	72.784	73.101
0	4	1	1.1980	750	0.9132	0.9163	72.868	73.187

TABLE V CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
5	1	- 2	1.1976	17435	0.9138	0.9169	72.929	73.249
2	0	- 9	1.1959	22105	0.9164	0.9196	73.198	73.523
0	3	6	1.1955	223160	0.9170	0.9201	73.251	73.578
4	2	- 5	1.1952	176	0.9175	0.9206	73.303	73.631
5	1	- 1	1.1930	496283	0.9209	0.9240	73.667	74.002
0	0	9	1.1924	24	0.9218	0.9249	73.756	74.093
1	2	- 8	1.1912	190564	0.9236	0.9267	73.951	74.293
3	3	2	1.1908	18762	0.9243	0.9274	74.026	74.369
5	1	- 3	1.1874	21827	0.9295	0.9327	74.602	74.959
3	2	- 7	1.1859	162253	0.9319	0.9351	74.872	75.237
3	1	6	1.1830	502	0.9364	0.9396	75.396	75.775
1	4	0	1.1823	623	0.9376	0.9408	75.537	75.919
1	1	- 9	1.1810	36496	0.9397	0.9429	75.783	76.173
1	4	- 1	1.1803	543	0.9408	0.9440	75.913	76.306
4	1	4	1.1790	102441	0.9428	0.9460	76.160	76.561
5	0	1	1.1764	233643	0.9470	0.9502	76.690	77.108
0	4	2	1.1762	128	0.9474	0.9506	76.737	77.156
5	1	0	1.1741	990	0.9508	0.9540	77.179	77.614
0	2	8	1.1722	32868	0.9538	0.9570	77.582	78.032
4	1	- 7	1.1712	143721	0.9555	0.9588	77.823	78.283
3	2	5	1.1711	301872	0.9556	0.9589	77.838	78.298
1	4	1	1.1701	1721	0.9572	0.9605	78.067	78.537
2	3	- 6	1.1677	172574	0.9611	0.9644	78.627	79.122
2	2	- 8	1.1654	278265	0.9649	0.9682	79.207	79.731
1	4	- 2	1.1644	4678	0.9666	0.9699	79.478	80.015
5	1	- 4	1.1636	23763	0.9679	0.9712	79.683	80.232
5	0	- 5	1.1607	1556120	0.9728	0.9761	80.499	81.099
2	1	- 9	1.1607	714338	0.9728	0.9761	80.508	81.109
0	1	9	1.1575	95433	0.9781	0.9814	81.493	82.171
3	3	- 5	1.1505	163702	0.9901	0.9934	84.284	85.357
4	2	3	1.1452	431770	0.9992		88.415	
1	4	2	1.1450	3591	0.9996		88.899	

TABLE VI

CALCULATED POWDER PATTERN OF ALPHA PLUTONIUM
FOR TITANIUM K ALPHA RADIATION

H	K	L	D	I	SIN SQ THETA	THETA
0	0	1	10.7317	853	0.0164	7.360
1	0	0	6.0526	678	0.0516	13.129
1	0	- 1	5.8037	588	0.0561	13.703
0	0	2	5.3659	138	0.0656	14.846
1	0	1	4.8638	1825	0.0799	16.419
1	0	- 2	4.4971	4894	0.0935	17.801
0	1	1	4.3984	8995	0.0977	18.214
1	1	0	3.7714	4393	0.1329	21.379
1	1	- 1	3.7089	16657	0.1374	21.758
1	0	2	3.6610	3608	0.1410	22.057
0	1	2	3.5866	28226	0.1469	22.540
0	0	3	3.5772	7381	0.1477	22.602
1	1	1	3.4244	13760	0.1612	23.671
1	0	- 3	3.3987	22	0.1636	23.860
1	1	- 2	3.2888	18723	0.1747	24.710
2	0	- 1	3.0818	45422	0.1990	26.494
2	0	0	3.0263	14335	0.2064	27.019
1	1	2	2.9158	258705	0.2223	28.132
2	0	- 2	2.9018	54127	0.2245	28.280
0	1	3	2.8730	440708	0.2290	28.590
1	0	3	2.8362	134348	0.2350	28.995
1	1	- 3	2.7780	1098981	0.2449	29.662
2	0	1	2.7687	552974	0.2466	29.773
0	0	4	2.6829	896016	0.2626	30.826
1	0	- 4	2.6626	1905	0.2666	31.088
2	1	- 1	2.5968	137509	0.2803	31.967
2	0	- 3	2.5855	1422436	0.2827	32.122
2	1	0	2.5633	117179	0.2877	32.435
2	1	- 2	2.4863	125975	0.3058	33.570
1	1	3	2.4447	125261	0.3163	34.220
2	0	2	2.4319	13218	0.3196	34.425
0	2	0	2.4110	3158824	0.3252	34.766
2	1	1	2.4010	3544270	0.3279	34.931
0	2	1	2.3524	1211	0.3416	35.763
0	1	4	2.3445	1322720	0.3439	35.903
1	1	- 4	2.3308	925878	0.3479	36.145
1	0	4	2.2858	196356	0.3617	36.974
2	1	- 3	2.2786	509393	0.3640	37.110
2	0	- 4	2.2486	107848	0.3738	37.692
1	2	0	2.2398	992	0.3768	37.865
1	2	- 1	2.2265	864	0.3813	38.132
0	2	2	2.1992	203	0.3908	38.693
2	1	2	2.1714	276566	0.4009	39.283
1	0	- 5	2.1672	122606	0.4024	39.373
1	2	1	2.1602	2713	0.4051	39.527
0	0	5	2.1463	13540	0.4103	39.832
1	2	- 2	2.1249	7340	0.4186	40.316
2	0	3	2.1078	23796	0.4254	40.712
1	1	4	2.0655	222898	0.4430	41.729
3	0	- 1	2.0607	62710	0.4451	41.848
2	1	- 4	2.0379	500	0.4551	42.425
3	0	- 2	2.0300	639225	0.4587	42.628
3	0	0	2.0175	57115	0.4644	42.956
1	2	2	2.0136	5547	0.4662	43.061
0	2	3	1.9993	11379	0.4729	43.444

TABLE VI CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
1	1	- 5	1.9767	44718	0.4837		44.067	
1	2	- 3	1.9665	34	0.4888		44.357	
0	1	5	1.9609	50847	0.4916		44.517	
2	0	- 5	1.9487	150534	0.4978		44.871	
3	0	- 3	1.9346	134068	0.5050		45.289	
2	1	3	1.9313	79615	0.5067		45.385	
3	0	1	1.9131	76027	0.5164		45.942	
1	0	5	1.9041	227992	0.5213		46.223	
2	2	- 1	1.8989	71503	0.5242		46.385	
3	1	- 1	1.8949	111030	0.5264		46.512	
2	2	0	1.8857	22626	0.5315		46.808	
3	1	- 2	1.8710	400538	0.5399		47.291	
3	1	0	1.8612	298686	0.5456		47.619	
2	2	- 2	1.8544	85958	0.5496		47.848	
1	2	3	1.8370	214082	0.5601		48.454	
2	0	4	1.8305	466841	0.5641		48.683	
1	0	- 6	1.8193	54802	0.5711		49.085	
2	2	1	1.8182	884324	0.5717		49.124	
2	1	- 5	1.8067	267446	0.5790		49.548	
3	0	- 4	1.7986	10881	0.5842		49.850	
3	1	- 3	1.7955	34915	0.5863		49.971	
0	2	4	1.7933	1439713	0.5877		50.053	
0	0	6	1.7886	152719	0.5908		50.232	
1	2	- 4	1.7872	3065	0.5918		50.288	
3	1	1	1.7782	16975	0.5977		50.636	
3	0	2	1.7729	7303	0.6014		50.848	
1	1	5	1.7710	50746	0.6026		50.922	
2	2	- 3	1.7633	2298419	0.6079		51.231	
2	2	2	1.7122	21543	0.6448		53.414	
2	1	4	1.7113	787058	0.6454		53.452	
1	1	- 6	1.7022	41035	0.6524		53.870	
2	0	- 6	1.6994	70985	0.6545		54.000	
3	1	- 4	1.6852	19660	0.6655		54.667	
0	1	6	1.6770	294403	0.6721		55.067	
3	1	2	1.6640	24701	0.6826		55.713	
1	2	4	1.6588	322630	0.6869		55.975	
3	0	- 5	1.6476	0	0.6963		56.557	
2	2	- 4	1.6444	177642	0.6990		56.726	
1	0	6	1.6273	13715	0.7138		57.655	
3	0	3	1.6213	156653	0.7191		57.994	
1	2	- 5	1.6118	203077	0.7276		58.538	
0	2	5	1.6031	22460	0.7354		59.046	
2	0	5	1.6030	15624	0.7356		59.055	
2	1	- 6	1.6028	225228	0.7358		59.069	
0	3	1	1.5896	5622	0.7480		59.869	
2	2	3	1.5869	39582	0.7506		60.039	
3	2	- 1	1.5665	104674	0.7703		61.359	
1	0	- 7	1.5642	61442	0.7725		61.514	
3	1	- 5	1.5591	212252	0.7776		61.860	
1	3	0	1.5535	2814	0.7832		62.250	
3	2	- 2	1.5529	1069458	0.7838		62.293	
1	3	- 1	1.5490	10700	0.7877		62.565	
3	2	0	1.5473	95648	0.7895		62.691	
4	0	- 1	1.5425	13183	0.7944		63.034	
1	1	6	1.5419	137388	0.7943	0.7965	63.032	63.182
4	0	- 2	1.5409	7745	0.7953	0.7975	63.102	63.253
0	3	2	1.5397	18236	0.7965	0.7987	63.188	63.340
3	1	3	1.5367	24053	0.7997	0.8018	63.411	63.564

TABLE VI CONTINUED

H	K	L	D	I	SIN SQ THETA		THETA	
0	0	7	1.5331	108370	0.8035	0.8056	63.683	63.838
1	3	1	1.5262	8962	0.8108	0.8129	64.215	64.374
2	1	5	1.5211	926631	0.8161	0.8183	64.610	64.771
2	2	- 5	1.5155	253224	0.8222	0.8244	65.059	65.224
1	3	- 2	1.5136	12283	0.8243	0.8265	65.220	65.386
4	0	0	1.5131	61453	0.8248	0.8270	65.255	65.421
3	2	- 3	1.5089	225721	0.8295	0.8317	65.609	65.778
4	0	- 3	1.5086	32740	0.8298	0.8320	65.634	65.803
3	0	- 6	1.4990	192995	0.8404	0.8426	66.452	66.628
3	2	1	1.4986	128173	0.8409	0.8431	66.489	66.665
2	0	- 7	1.4964	83059	0.8433	0.8456	66.682	66.860
1	2	5	1.4943	384584	0.8457	0.8480	66.874	67.054
1	1	- 7	1.4879	794067	0.8531	0.8553	67.460	67.644
3	0	4	1.4743	28981	0.8689	0.8712	68.769	68.967
1	3	2	1.4717	173641	0.8719	0.8742	69.024	69.224
4	1	- 1	1.4692	846808	0.8749	0.8772	69.285	69.488
4	1	- 2	1.4678	1418703	0.8766	0.8789	69.430	69.634
0	3	3	1.4661	296663	0.8785	0.8809	69.603	69.809
0	1	7	1.4610	1681575	0.8847	0.8870	70.147	70.360
2	2	4	1.4579	791200	0.8885	0.8908	70.490	70.707
4	0	1	1.4577	50534	0.8887	0.8911	70.513	70.730
1	3	- 3	1.4530	744745	0.8944	0.8968	71.040	71.263
1	2	- 6	1.4522	92946	0.8954	0.8978	71.133	71.357
4	0	- 4	1.4509	27036	0.8971	0.8994	71.285	71.512
4	1	0	1.4437	127281	0.9060	0.9084	72.147	72.385
3	2	- 4	1.4417	18480	0.9086	0.9110	72.403	72.645
4	1	- 3	1.4398	20888	0.9110	0.9134	72.644	72.890
0	2	6	1.4365	259544	0.9152	0.9176	73.066	73.318
3	1	- 6	1.4315	2012886	0.9216	0.9241	73.740	74.004
2	1	- 7	1.4292	89344	0.9245	0.9270	74.056	74.325
3	2	2	1.4283	12425	0.9257	0.9282	74.181	74.452
2	3	- 1	1.4251	94493	0.9298	0.9323	74.635	74.915
2	3	0	1.4195	80762	0.9372	0.9397	75.482	75.779
1	0	7	1.4188	34992	0.9382	0.9407	75.602	75.902
2	0	6	1.4181	28852	0.9391	0.9416	75.708	76.011
3	1	4	1.4098	688417	0.9501	0.9526	77.090	77.427
2	3	- 2	1.4060	87425	0.9552	0.9578	77.783	78.141
1	3	3	1.3984	87235	0.9657	0.9683	79.330	79.743
4	1	1	1.3953	57211	0.9699	0.9725	80.014	80.457
2	3	1	1.3901	2477630	0.9773	0.9799	81.337	81.853
4	1	- 4	1.3894	149541	0.9783	0.9809	81.523	82.051
2	2	- 6	1.3890	121606	0.9788	0.9814	81.626	82.161
4	0	2	1.3843	75617	0.9854	0.9881	83.067	83.725
0	3	4	1.3788	929317	0.9933	0.9960	85.308	86.354
4	0	- 5	1.3762	100	0.9971	0.9998	86.914	89.112
1	3	- 4	1.3760	651311	0.9973	1.0000	87.040	89.841

Table VII

WAVELENGTHS USED FOR CALCULATION OF POWDER PATTERNS, IN Å[6]

Element	$K\alpha_1$	$K\alpha_2$	$K\alpha_{ave}$
Cu	1.54051	1.54433	1.54178
Ni	1.65784	1.66169	1.65912
Co	1.78892	1.79278	1.79021
Fe	1.93597	1.93991	1.93728
Cr	2.28962	2.29351	2.29092
Ti	2.74841	2.75207	2.74963

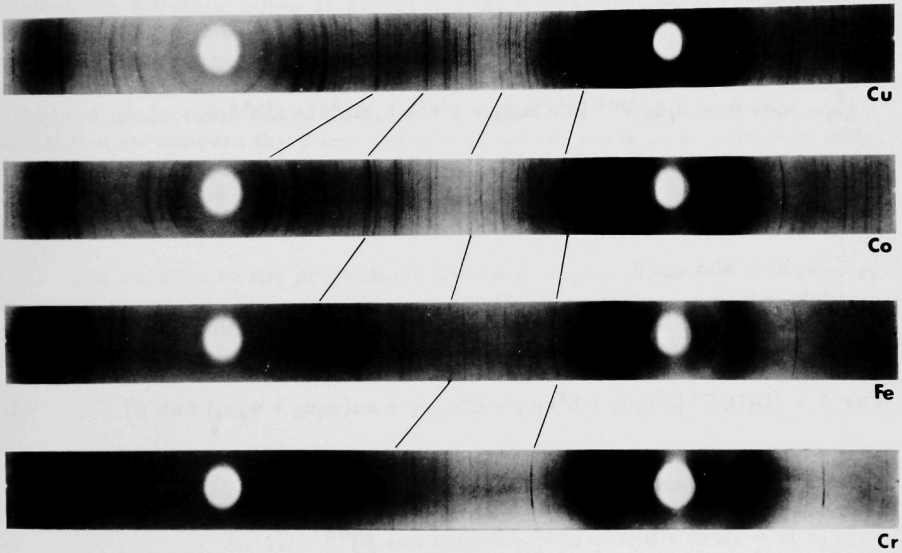

Figure 1. Debye-Scherrer Patterns of Alpha Plutonium

III. STANDARD PROJECTIONS

Two-dimensional plots of the angles, in three-dimensional space, between poles of crystallographic planes and/or between crystallographic directions are of considerable value in physical metallurgy studies. These standard projections are used in conjunction with procedures for manipulating stereographic projections to analyze markings appearing on polished grains such as slip lines, twins, cracks, and structures formed by precipitation. They also provide the most convenient basis for interpreting certain types of X-ray patterns, particularly those for determining the orientation of individual grains or the preferred orientation of grains in an aggregate.

A. Mathematical Relations

Equations for calculating the angles between crystallographic planes (plane poles) and the angles between crystallographic directions have been given for the crystal system with the lowest symmetry, triclinic, by Barrett.[7] The following, somewhat simpler, equations apply to a monoclinic crystal with the above lattice constants.

The angle ϕ between two crystallographic planes with indices $(h_1k_1\ell_1)$ and $(h_2k_2\ell_2)$ is given by the relation

$$\cos\phi = d_1d_2\, V^{-2}\, [b^2c^2h_1h_2 + a^2c^2k_1k_2\sin^2\beta + a^2b^2\ell_1\ell_2 - ab^2c\,(\ell_1h_2 + \ell_2h_1)\cos\beta] \quad . \tag{4}$$

The volume V of the unit cell is

$$V = abc\sin\beta \quad .$$

The angle ρ between two crystallographic directions with indices $[u_1v_1w_1]$ and $[u_2v_2w_2]$ is given by the relation

$$\cos\rho = [D_1D_2]^{-1}\,[a^2u_1u_2 + b^2v_1v_2 + c^2w_1w_2 + ac(w_1u_2 + w_2u_1)\cos\beta] \quad , \tag{5}$$

where the shortest distance D between identical points in the lattice along a direction with indices [uvw] is

$$D = [a^2u^2 + b^2v^2 + c^2w^2 + 2cawu\cos\beta]^{1/2} \quad .$$

Finally, the angle δ between the direction [uvw] and the plane $(hk\ell)$ is given by the relation

$$\sin\delta = V[AD]^{-1}\,[uh + vk + w\ell] \quad , \tag{6}$$

where the area A of the smallest unit parallelogram on the lattice plane ($hk\ell$) is

$$A = [b^2c^2h^2 + a^2c^2k^2 \sin^2\beta + a^2b^2\ell^2 - 2ab^2ch\ell \cos \beta]^{-1/2} \quad .$$

B. Computations and Plots

Values of the angles ϕ and ρ between the principal crystallographic elements, 100, 010, or 001, and the corresponding types of elements with Miller indices $hk\ell$ or uvw have been calculated on an IBM 704 machine.[8] Table VIII gives values of the angles to the nearest hundredth of a degree for all possible combinations of positive h (or u) and k (or v) plus positive and negative ℓ(or w) when the sum of the absolute values of the indices is equal to, or less than, 15. All of the angles are given with reference to the positive principal elements. The subheadings, such as 001--00-1 (page 62), designate the zones (on the stereographic plots) that contain the plane poles or directions listed below these subheadings.

A portion of the angles given in Table VIII have been used to prepare the 010 standard projections shown in Figures 2 and 3. Points are plotted for all plane poles or directions for which the sum of the absolute values of the indices is equal to, or less than, 10. Separate plots were needed for the plane poles and for the directions, because the two types of elements with the same indices do not coincide, except for 010. Only standard projections based on the 010 elements are logical, because they are the ones wherein the plane of the plot corresponds to a symmetry element in the crystal structure. Since the respective 100 and 001 elements do not coincide, the arrows are arranged on the plots so that when they are superimposed the two projections are in proper relation.

In addition to the projections shown in Figures 2 and 3, another set has been prepared wherein points are plotted for all the crystallographic elements tabulated in Table VIII. Positive prints on film of all four projections have been prepared for use with a 30-cm-diameter Wulff net.

TABLE VIII

ANGLES BETWEEN PLANES AND ANGLES BETWEEN DIRECTIONS FOR ALPHA PLUTONIUM

MILLER INDICES			ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES)			ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES)		
H	K	L	1 0 0	0 1 0	0 0 1	1 0 0	0 1 0	0 0 1
					0 0 1 --	0 0 -1		
0	0	1	78.21	90.00	0.00	101.79	90.00	0.00
1	0	14	71.32	90.00	6.89	99.51	90.00	2.28
1	0	13	70.81	90.00	7.40	99.34	90.00	2.45
1	0	12	70.22	90.00	7.99	99.13	90.00	2.66
1	0	11	69.52	90.00	8.69	98.89	90.00	2.90
1	0	10	68.70	90.00	9.51	98.59	90.00	3.20
1	0	9	67.71	90.00	10.50	98.23	90.00	3.56
1	0	8	66.48	90.00	11.73	97.78	90.00	4.01
1	0	7	64.94	90.00	13.27	97.21	90.00	4.58
2	0	13	64.02	90.00	14.19	96.85	90.00	4.94
1	0	6	62.95	90.00	15.26	96.43	90.00	5.36
2	0	11	61.72	90.00	16.49	95.94	90.00	5.85
1	0	5	60.27	90.00	17.94	95.34	90.00	6.45
2	0	9	58.57	90.00	19.64	94.61	90.00	7.18
1	0	4	56.51	90.00	21.70	93.70	90.00	8.09
3	0	11	54.90	90.00	23.31	92.95	90.00	8.84
2	0	7	54.01	90.00	24.20	92.53	90.00	9.26
3	0	10	53.05	90.00	25.16	92.06	90.00	9.73
1	0	3	50.91	90.00	27.30	90.96	90.00	10.83
4	0	11	49.06	90.00	29.15	89.96	90.00	11.83
3	0	8	48.40	90.00	29.81	89.58	90.00	12.21
2	0	5	46.98	90.00	31.23	88.76	90.00	13.03
3	0	7	45.43	90.00	32.78	87.81	90.00	13.98
4	0	9	44.61	90.00	33.60	87.29	90.00	14.50
1	0	2	41.90	90.00	36.31	85.46	90.00	16.33
5	0	9	39.46	90.00	38.75	83.65	90.00	18.14
4	0	7	38.80	90.00	39.41	83.13	90.00	18.66
3	0	5	37.66	90.00	40.55	82.20	90.00	19.59
5	0	8	36.72	90.00	41.49	81.39	90.00	20.40
2	0	3	35.23	90.00	42.98	80.05	90.00	21.74
5	0	7	33.65	90.00	44.56	78.54	90.00	23.25
3	0	4	32.54	90.00	45.67	77.41	90.00	24.38
4	0	5	31.10	90.00	47.11	75.85	90.00	25.94
5	0	6	30.20	90.00	48.01	74.82	90.00	26.97
6	0	7	29.59	90.00	48.62	74.09	90.00	27.70
7	0	8	29.14	90.00	49.07	73.54	90.00	28.25
1	0	1	26.34	90.00	51.87	69.83	90.00	31.96
8	0	7	23.69	90.00	54.52	65.79	90.00	36.00
7	0	6	23.30	90.00	54.91	65.14	90.00	36.65
6	0	5	22.77	90.00	55.44	64.24	90.00	37.55
5	0	4	22.02	90.00	56.19	62.91	90.00	38.88
4	0	3	20.86	90.00	57.35	60.77	90.00	41.02
7	0	5	20.02	90.00	58.19	59.13	90.00	42.66
3	0	2	18.87	90.00	59.34	56.76	90.00	45.03
8	0	5	17.84	90.00	60.37	54.51	90.00	47.28
5	0	3	17.21	90.00	61.00	53.07	90.00	48.72
7	0	4	16.49	90.00	61.72	51.36	90.00	50.43
9	0	5	16.08	90.00	62.13	50.36	90.00	51.43
2	0	1	14.63	90.00	63.58	46.66	90.00	55.13
9	0	4	13.14	90.00	65.07	42.60	90.00	59.19
7	0	3	12.71	90.00	65.50	41.37	90.00	60.42
5	0	2	11.92	90.00	66.29	39.07	90.00	62.72

TABLE VIII CONTINUED

MILLER INDICES			ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES)			ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES)		
H	K	L	1 0 0	0 1 0	0 0 1	1 0 0	0 1 0	0 0 1
8	0	3	11.22	90.00	66.99	36.99	90.00	64.80
11	0	4	10.91	90.00	67.30	36.01	90.00	65.78
3	0	1	10.05	90.00	68.16	33.35	90.00	68.44
10	0	3	9.10	90.00	69.11	30.29	90.00	71.50
7	0	2	8.68	90.00	69.53	28.95	90.00	72.84
11	0	3	8.31	90.00	69.90	27.71	90.00	74.08
4	0	1	7.64	90.00	70.57	25.51	90.00	76.28
9	0	2	6.82	90.00	71.39	22.76	90.00	79.03
5	0	1	6.16	90.00	72.05	20.52	90.00	81.27
11	0	2	5.62	90.00	72.59	18.67	90.00	83.12
6	0	1	5.16	90.00	73.05	17.11	90.00	84.68
13	0	2	4.77	90.00	73.44	15.79	90.00	86.00
7	0	1	4.44	90.00	73.77	14.65	90.00	87.14
8	0	1	3.89	90.00	74.32	12.80	90.00	88.99
9	0	1	3.47	90.00	74.74	11.36	90.00	90.43
10	0	1	3.12	90.00	75.09	10.21	90.00	91.58
11	0	1	2.84	90.00	75.37	9.27	90.00	92.52
12	0	1	2.61	90.00	75.60	8.48	90.00	93.31
13	0	1	2.41	90.00	75.80	7.82	90.00	93.97
14	0	1	2.24	90.00	75.97	7.25	90.00	94.54
1	0	0	0.00	90.00	78.21	0.00	90.00	101.79
14	0	-1	2.28	90.00	80.49	6.89	90.00	108.68
13	0	-1	2.45	90.00	80.66	7.40	90.00	109.19
12	0	-1	2.66	90.00	80.87	7.99	90.00	109.78
11	0	-1	2.90	90.00	81.11	8.69	90.00	110.48
10	0	-1	3.20	90.00	81.41	9.51	90.00	111.30
9	0	-1	3.56	90.00	81.77	10.50	90.00	112.29
8	0	-1	4.01	90.00	82.22	11.73	90.00	113.52
7	0	-1	4.58	90.00	82.79	13.27	90.00	115.06
13	0	-2	4.94	90.00	83.15	14.19	90.00	115.98
6	0	-1	5.36	90.00	83.57	15.26	90.00	117.05
11	0	-2	5.85	90.00	84.06	16.49	90.00	118.28
5	0	-1	6.45	90.00	84.66	17.94	90.00	119.73
9	0	-2	7.18	90.00	85.39	19.64	90.00	121.43
4	0	-1	8.09	90.00	86.30	21.70	90.00	123.49
11	0	-3	8.84	90.00	87.05	23.31	90.00	125.10
7	0	-2	9.26	90.00	87.47	24.20	90.00	125.99
10	0	-3	9.73	90.00	87.94	25.16	90.00	126.95
3	0	-1	10.83	90.00	89.04	27.30	90.00	129.09
11	0	-4	11.83	90.00	90.04	29.15	90.00	130.94
8	0	-3	12.21	90.00	90.42	29.81	90.00	131.60
5	0	-2	13.03	90.00	91.24	31.23	90.00	133.02
7	0	-3	13.98	90.00	92.19	32.78	90.00	134.57
9	0	-4	14.50	90.00	92.71	33.60	90.00	135.39
2	0	-1	16.33	90.00	94.54	36.31	90.00	138.10
9	0	-5	18.14	90.00	96.35	38.75	90.00	140.54
7	0	-4	18.66	90.00	96.87	39.41	90.00	141.20
5	0	-3	19.59	90.00	97.80	40.55	90.00	142.34
8	0	-5	20.40	90.00	98.61	41.49	90.00	143.28
3	0	-2	21.74	90.00	99.95	42.98	90.00	144.77
7	0	-5	23.25	90.00	101.46	44.56	90.00	146.35
4	0	-3	24.38	90.00	102.59	45.67	90.00	147.46
5	0	-4	25.94	90.00	104.15	47.11	90.00	148.90
6	0	-5	26.97	90.00	105.18	48.01	90.00	149.80
7	0	-6	27.70	90.00	105.91	48.62	90.00	150.41
8	0	-7	28.25	90.00	106.46	49.07	90.00	150.86

TABLE VIII CONTINUED

MILLER INDICES H	K	L	ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES) 1 0 0	0 1 0	0 0 1	ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES) 1 0 0	0 1 0	0 0 1
1	0	-1	31.96	90.00	110.17	51.87	90.00	153.66
7	0	-8	36.00	90.00	114.21	54.52	90.00	156.31
6	0	-7	36.65	90.00	114.86	54.91	90.00	156.70
5	0	-6	37.55	90.00	115.76	55.44	90.00	157.23
4	0	-5	38.88	90.00	117.09	56.19	90.00	157.98
3	0	-4	41.02	90.00	119.23	57.35	90.00	159.14
5	0	-7	42.66	90.00	120.87	58.19	90.00	159.98
2	0	-3	45.03	90.00	123.24	59.34	90.00	161.13
5	0	-8	47.28	90.00	125.49	60.37	90.00	162.16
3	0	-5	48.72	90.00	126.93	61.00	90.00	162.79
4	0	-7	50.43	90.00	128.64	61.72	90.00	163.51
5	0	-9	51.43	90.00	129.64	62.13	90.00	163.92
1	0	-2	55.13	90.00	133.34	63.58	90.00	165.37
4	0	-9	59.19	90.00	137.40	65.07	90.00	166.86
3	0	-7	60.42	90.00	138.63	65.50	90.00	167.29
2	0	-5	62.72	90.00	140.93	66.29	90.00	168.08
3	0	-8	64.80	90.00	143.01	66.99	90.00	168.78
4	0	-11	65.78	90.00	143.99	67.30	90.00	169.09
1	0	-3	68.44	90.00	146.65	68.16	90.00	169.95
3	0	-10	71.50	90.00	149.71	69.11	90.00	170.90
2	0	-7	72.84	90.00	151.05	69.53	90.00	171.32
3	0	-11	74.08	90.00	152.29	69.90	90.00	171.69
1	0	-4	76.28	90.00	154.49	70.57	90.00	172.36
2	0	-9	79.03	90.00	157.24	71.39	90.00	173.18
1	0	-5	81.27	90.00	159.48	72.05	90.00	173.84
2	0	-11	83.12	90.00	161.33	72.59	90.00	174.38
1	0	-6	84.68	90.00	162.89	73.05	90.00	174.84
2	0	-13	86.00	90.00	164.21	73.44	90.00	175.23
1	0	-7	87.14	90.00	165.35	73.77	90.00	175.56
1	0	-8	88.99	90.00	167.20	74.32	90.00	176.11
1	0	-9	90.43	90.00	168.64	74.74	90.00	176.53
1	0	-10	91.58	90.00	169.79	75.09	90.00	176.88
1	0	-11	92.52	90.00	170.73	75.37	90.00	177.16
1	0	-12	93.31	90.00	171.52	75.60	90.00	177.39
1	0	-13	93.97	90.00	172.18	75.80	90.00	177.59
1	0	-14	94.54	90.00	172.75	75.97	90.00	177.76
0	0	-1	101.79	90.00	180.00	78.21	90.00	180.00
					0 0 1 -- 0 1 0			
0	1	14	78.36	80.97	9.03	101.78	88.20	1.80
0	1	13	78.38	80.29	9.71	101.78	88.06	1.94
0	1	12	78.41	79.49	10.51	101.78	87.90	2.10
0	1	11	78.45	78.56	11.44	101.78	87.71	2.29
0	1	10	78.50	77.45	12.55	101.78	87.48	2.52
0	1	9	78.56	76.11	13.89	101.78	87.20	2.80
0	1	8	78.65	74.45	15.55	101.77	86.85	3.15
0	1	7	78.77	72.36	17.64	101.77	86.40	3.60
0	2	13	78.85	71.10	18.90	101.76	86.13	3.87
0	1	6	78.96	69.65	20.35	101.76	85.81	4.19
0	2	11	79.08	67.97	22.03	101.75	85.43	4.57
0	1	5	79.24	66.01	23.99	101.74	84.97	5.03
0	2	9	79.45	63.68	26.32	101.73	84.42	5.58
0	1	4	79.71	60.91	29.09	101.72	83.72	6.28
0	3	11	79.94	58.74	31.26	101.70	83.16	6.84
0	2	7	80.07	57.55	32.45	101.70	82.84	7.16

TABLE VIII CONTINUED

MILLER INDICES			ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES)			ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES)		
H	K	L	1 0 0	0 1 0	0 0 1	1 0 0	0 1 0	0 0 1
0	3	10	80.22	56.27	33.73	101.69	82.48	7.52
0	1	3	80.56	53.43	36.57	101.66	81.66	8.34
0	4	11	80.86	51.02	38.98	101.64	80.91	9.09
0	3	8	80.97	50.15	39.85	101.63	80.63	9.37
0	2	5	81.22	48.32	41.68	101.61	80.02	9.98
0	3	7	81.50	46.35	43.65	101.58	79.32	10.68
0	4	9	81.65	45.31	44.69	101.57	78.94	11.06
0	1	2	82.15	41.94	48.06	101.51	77.60	12.40
0	5	9	82.62	38.97	51.03	101.45	76.27	13.73
0	4	7	82.74	38.18	51.82	101.43	75.89	14.11
0	3	5	82.96	36.83	53.17	101.39	75.22	14.78
0	5	8	83.15	35.71	54.29	101.36	74.63	15.37
0	2	3	83.44	33.98	56.02	101.31	73.66	16.34
0	5	7	83.75	32.17	57.83	101.24	72.56	17.44
0	3	4	83.97	30.93	59.07	101.19	71.74	18.26
0	4	5	84.26	29.32	60.68	101.11	70.61	19.39
0	5	6	84.44	28.33	61.67	101.06	69.87	20.13
0	6	7	84.56	27.66	62.34	101.02	69.34	20.66
0	7	8	84.64	27.18	62.82	100.99	68.95	21.05
0	1	1	85.20	24.20	65.80	100.78	66.26	23.74
0	8	7	85.71	21.46	68.54	100.52	63.31	26.69
0	7	6	85.79	21.06	68.94	100.47	62.84	27.16
0	6	5	85.89	20.53	69.47	100.41	62.17	27.83
0	5	4	86.04	19.77	70.23	100.31	61.20	28.80
0	4	3	86.26	18.62	71.38	100.15	59.61	30.39
0	7	5	86.42	17.79	72.21	100.02	58.38	31.62
0	3	2	86.64	16.68	73.32	99.82	56.58	33.42
0	8	5	86.83	15.69	74.31	99.62	54.86	35.14
0	5	3	86.95	15.09	74.91	99.48	53.76	36.24
0	7	4	87.09	14.40	75.60	99.32	52.41	37.59
0	9	5	87.16	14.02	75.98	99.22	51.63	38.37
0	2	1	87.43	12.66	77.34	98.82	48.66	41.34
0	9	4	87.71	11.29	78.71	98.35	45.30	44.70
0	7	3	87.79	10.90	79.10	98.20	44.26	45.74
0	5	2	87.93	10.19	79.81	97.90	42.28	47.72
0	8	3	88.05	9.56	80.44	97.62	40.45	49.55
0	11	4	88.11	9.28	80.72	97.48	39.58	50.42
0	3	1	88.27	8.52	81.48	97.09	37.16	52.84
0	10	3	88.44	7.68	82.32	96.61	34.30	55.70
0	7	2	88.51	7.32	82.68	96.39	33.01	56.99
0	11	3	88.58	6.99	83.01	96.18	31.80	58.20
0	4	1	88.69	6.41	83.59	95.79	29.61	60.39
0	9	2	88.84	5.70	84.30	95.29	26.80	63.20
0	5	1	88.95	5.14	84.86	94.85	24.45	65.55
0	11	2	89.05	4.67	85.33	94.48	22.46	67.54
0	6	1	89.13	4.28	85.72	94.15	20.75	69.25
0	13	2	89.19	3.95	86.05	93.87	19.28	70.72
0	7	1	89.25	3.67	86.33	93.62	17.99	72.01
0	8	1	89.34	3.21	86.79	93.20	15.86	74.14
0	9	1	89.42	2.86	87.14	92.87	14.18	75.82
0	10	1	89.47	2.57	87.43	92.60	12.81	77.19
0	11	1	89.52	2.34	87.66	92.37	11.68	78.32
0	12	1	89.56	2.14	87.86	92.18	10.73	79.27
0	13	1	89.60	1.98	88.02	92.02	9.92	80.08
0	14	1	89.62	1.84	88.16	91.88	9.22	80.78
0	1	0	90.00	0.00	90.00	90.00	0.00	90.00

TABLE VIII CONTINUED

MILLER INDICES H	K	L	ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES) 1 0 0	0 1 0	0 0 1	ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES) 1 0 0	0 1 0	0 0 1
					1 0 13 -- 0 1 0			
1	1	13	71.08	80.62	11.93	99.33	88.05	3.14
					1 0 12 -- 0 1 0			
1	1	12	70.54	79.89	12.86	99.12	87.88	3.40
1	2	12	71.41	70.38	21.13	99.11	85.77	4.99
					1 0 11 -- 0 1 0			
1	1	11	69.91	79.04	13.95	98.88	87.69	3.71
1	2	11	70.96	68.83	22.81	98.86	85.39	5.45
1	3	11	72.39	59.85	31.26	98.82	83.10	7.49
					1 0 10 -- 0 1 0			
1	1	10	69.19	78.04	15.24	98.58	87.46	4.08
1	2	10	70.46	67.04	24.75	98.56	84.92	6.00
1	3	10	72.15	57.56	33.65	98.52	82.41	8.23
1	4	10	73.91	49.73	41.20	98.46	79.92	10.57
					1 0 9 -- 0 1 0			
1	1	9	68.32	76.84	16.78	98.22	87.17	4.54
1	2	9	69.90	64.95	27.04	98.19	84.36	6.67
1	3	9	71.91	54.96	36.38	98.14	81.57	9.15
1	4	9	73.91	46.93	44.09	98.08	78.82	11.72
1	5	9	75.72	40.55	50.26	97.99	76.12	14.32
					1 0 8 -- 0 1 0			
1	1	8	67.29	75.39	18.65	97.77	86.81	5.12
1	2	8	69.28	62.47	29.74	97.74	83.65	7.50
1	3	8	71.68	51.98	39.52	97.68	80.52	10.28
1	4	8	73.96	43.81	47.32	97.60	77.45	13.16
1	5	8	75.94	37.51	53.41	97.50	74.45	16.04
1	6	8	77.59	32.60	58.16	97.38	71.54	18.88
					1 0 7 -- 0 1 0			
1	1	7	66.03	73.60	20.97	97.19	86.36	5.85
1	2	7	68.59	59.53	32.98	97.15	82.74	8.58
1	3	7	71.49	48.57	43.14	97.08	79.18	11.74
1	4	7	74.08	40.35	50.93	96.98	75.71	14.99
1	5	7	76.23	34.21	56.83	96.86	72.34	18.23
1	6	7	77.95	29.53	61.33	96.73	69.09	21.39
1	7	7	79.34	25.90	64.84	96.58	65.97	24.43
					1 0 6 -- 0 1 0			
2	1	12	63.36	80.42	17.96	96.43	87.87	5.77
1	1	6	64.48	71.35	23.92	96.41	85.74	6.84
1	2	6	67.86	55.98	36.90	96.36	81.53	10.01
1	3	6	71.36	44.65	47.32	96.28	77.42	13.66
1	4	6	74.29	36.53	54.95	96.16	73.42	17.40

TABLE VIII CONTINUED

MILLER INDICES			ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES)			ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES)		
H	K	L	1 0 0	0 1 0	0 0 1	1 0 0	0 1 0	0 0 1
1	5	6	76.59	30.65	60.54	96.03	69.59	21.07
1	6	6	78.38	26.28	64.71	95.87	65.94	24.62
1	7	6	79.79	22.94	67.91	95.70	62.48	27.99
1	8	6	80.91	20.32	70.42	95.52	59.23	31.18
					2 0 11 -- 0 1 0			
2	1	11	62.21	79.68	19.38	95.93	87.67	6.30
2	2	11	63.56	70.00	25.71	95.92	85.35	7.47
					1 0 5 -- 0 1 0			
2	1	10	60.89	78.83	21.03	95.34	87.44	6.94
1	1	5	62.54	68.45	27.76	95.32	84.89	8.22
2	3	10	64.75	59.36	35.06	95.29	82.36	9.99
1	2	5	67.10	51.70	41.70	95.26	79.85	12.00
1	3	5	71.35	40.17	52.14	95.16	74.97	16.32
1	4	5	74.62	32.34	59.41	95.03	70.31	20.68
1	5	5	77.05	26.86	64.54	94.87	65.90	24.90
1	6	5	78.88	22.88	68.29	94.70	61.77	28.90
1	7	5	80.29	19.89	71.12	94.53	57.94	32.63
1	8	5	81.39	17.57	73.31	94.34	54.41	36.10
1	9	5	82.28	15.72	75.07	94.16	51.16	39.29
					2 0 9 -- 0 1 0			
2	1	9	59.35	77.84	22.98	94.61	87.15	7.72
2	2	9	61.38	66.68	30.13	94.59	84.32	9.15
2	3	9	64.03	57.11	37.73	94.56	81.51	11.10
2	4	9	66.73	49.23	44.50	94.52	78.74	13.33
					1 0 4 -- 0 1 0			
2	1	8	57.53	76.67	25.30	93.70	86.79	8.70
1	1	4	60.09	64.64	32.90	93.68	83.60	10.30
2	3	8	63.28	54.58	40.78	93.65	80.46	12.49
1	2	4	66.40	46.53	47.60	93.61	77.36	14.97
2	5	8	69.16	40.16	53.19	93.56	74.34	17.57
1	3	4	71.50	35.11	57.69	93.51	71.41	20.21
1	4	4	75.09	27.81	64.31	93.38	65.85	25.39
1	5	4	77.62	22.88	68.83	93.23	60.73	30.27
1	6	4	79.46	19.37	72.05	93.07	56.08	34.76
1	7	4	80.84	16.77	74.45	92.91	51.88	38.84
1	8	4	81.91	14.77	76.30	92.75	48.12	42.52
1	9	4	82.77	13.19	77.76	92.60	44.75	45.82
1	10	4	83.46	11.91	78.94	92.46	41.74	48.77
					3 0 11 -- 0 1 0			
3	1	11	55.47	80.40	25.10	92.95	87.66	9.14
					2 0 7 -- 0 1 0			
2	1	7	55.37	75.28	28.09	92.52	86.33	9.96
2	2	7	58.66	62.27	36.16	92.51	82.69	11.78
2	3	7	62.52	51.75	44.25	92.48	79.11	14.26

TABLE VIII CONTINUED

MILLER INDICES			ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES)			ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES)		
H	K	L	1 0 0	0 1 0	0 0 1	1 0 0	0 1 0	0 0 1
2	4	7	66.11	43.57	51.05	92.45	75.61	17.06
2	5	7	69.15	37.27	56.47	92.41	72.22	19.98
2	6	7	71.66	32.38	60.76	92.36	68.96	22.91
					3 0 10 -- 0 1 0			
3	1	10	53.74	79.70	27.06	92.05	87.43	10.07
3	2	10	55.60	70.03	31.71	92.05	84.87	10.99
					1 0 3 -- 0 1 0			
3	1	9	51.77	78.91	29.31	90.95	87.14	11.20
2	1	6	52.77	73.61	31.52	90.95	85.72	11.64
3	2	9	54.05	68.59	34.18	90.95	84.30	12.23
1	1	3	57.07	59.54	40.01	90.95	81.48	13.75
2	3	6	61.78	48.58	48.22	90.93	77.34	16.61
1	2	3	65.89	40.37	54.86	90.92	73.33	19.80
2	5	6	69.23	34.22	60.02	90.89	69.47	23.10
1	3	3	71.89	29.54	64.02	90.87	65.81	26.37
2	7	6	74.01	25.91	67.15	90.85	62.34	29.55
1	4	3	75.72	23.03	69.66	90.82	59.08	32.59
1	5	3	78.29	18.78	73.38	90.76	53.18	38.17
1	6	3	80.10	15.82	75.98	90.71	48.06	43.06
1	7	3	81.44	13.65	77.89	90.66	43.65	47.32
1	8	3	82.47	12.00	79.36	90.61	39.85	51.00
1	9	3	83.28	10.70	80.51	90.57	36.57	54.18
1	10	3	83.93	9.65	81.43	90.53	33.73	56.95
1	11	3	84.47	8.79	82.20	90.50	31.26	59.36
					3 0 8 -- 0 1 0			
3	1	8	49.50	78.00	31.93	89.58	86.79	12.62
3	2	8	52.33	66.97	37.01	89.58	83.59	13.77
3	3	8	55.95	57.48	42.98	89.59	80.44	15.46
3	4	8	59.61	49.63	48.62	89.59	77.34	17.52
					2 0 5 -- 0 1 0			
4	1	10	47.70	80.56	32.49	88.76	87.43	13.28
2	1	5	49.65	71.61	35.77	88.76	84.87	13.99
2	2	5	55.38	56.38	44.60	88.77	79.81	16.49
2	3	5	61.11	45.08	52.74	88.80	74.92	19.84
2	4	5	65.79	36.94	59.07	88.83	70.23	23.53
2	5	5	69.41	31.03	63.84	88.86	65.81	27.29
2	6	5	72.19	26.63	67.47	88.90	61.67	30.96
2	7	5	74.37	23.25	70.27	88.95	57.83	34.44
2	8	5	76.11	20.61	72.49	88.99	54.29	37.71
					3 0 7 -- 0 1 0			
3	1	7	46.87	76.97	35.00	87.82	86.33	14.44
3	2	7	50.44	65.17	40.27	87.83	82.69	15.74
3	3	7	54.80	55.23	46.32	87.85	79.11	17.65
3	4	7	59.00	47.21	51.90	87.88	75.61	19.96
3	5	7	62.68	40.84	56.65	87.92	72.22	22.48

TABLE VIII CONTINUED

MILLER INDICES			ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES)			ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES)		
H	K	L	1 0 0	0 1 0	0 0 1	1 0 0	0 1 0	0 0 1
					4 0 9 -- 0 1 0			
4	1	9	45.49	79.94	34.90	87.29	87.15	14.77
4	2	9	47.86	70.47	38.28	87.30	84.30	15.56
					1 0 2 -- 0 1 0			
4	1	8	43.01	79.25	37.65	85.47	86.80	16.63
3	1	6	43.82	75.80	38.63	85.48	85.73	16.86
2	1	4	45.91	69.21	41.11	85.49	83.61	17.50
3	2	6	48.39	63.15	44.03	85.51	81.51	18.35
4	3	8	49.70	60.34	45.55	85.53	80.47	18.84
1	1	2	53.65	52.79	50.07	85.57	77.38	20.53
3	4	6	58.46	44.65	55.50	85.65	73.37	23.14
2	3	4	60.59	41.29	57.88	85.70	71.43	24.53
3	5	6	62.52	38.32	60.02	85.75	69.53	25.96
1	2	2	65.84	33.37	63.69	85.86	65.87	28.86
2	5	4	69.70	27.78	67.94	86.04	60.76	33.14
1	3	2	72.59	23.70	71.10	86.24	56.10	37.20
2	7	4	74.80	20.62	73.51	86.43	51.91	40.95
1	4	2	76.54	18.23	75.40	86.62	48.15	44.37
2	9	4	77.93	16.31	76.92	86.81	44.78	47.47
1	5	2	79.07	14.76	78.15	86.98	41.77	50.27
1	6	2	80.82	12.38	80.05	87.29	36.66	55.04
1	7	2	82.09	10.66	81.43	87.56	32.53	58.93
1	8	2	83.06	9.35	82.48	87.79	29.17	62.11
1	9	2	83.81	8.33	83.30	87.99	26.39	64.75
1	10	2	84.42	7.50	83.96	88.15	24.06	66.97
1	11	2	84.92	6.83	84.50	88.30	22.09	68.84
1	12	2	85.34	6.26	84.96	88.42	20.41	70.45
					5 0 9 -- 0 1 0			
5	1	9	40.33	80.88	39.65	83.65	87.16	18.36
					4 0 7 -- 0 1 0			
4	1	7	40.21	78.50	40.79	83.14	86.35	19.00
4	2	7	43.79	67.85	44.31	83.18	82.74	19.98
4	3	7	48.30	58.59	48.74	83.25	79.18	21.48
4	4	7	52.81	50.85	53.19	83.34	75.70	23.35
					3 0 5 -- 0 1 0			
3	1	5	40.30	74.47	42.93	82.23	84.91	20.21
3	2	5	46.22	60.94	48.38	82.32	79.90	21.95
3	3	5	52.55	50.19	54.29	82.47	75.05	24.46
3	4	5	58.03	41.98	59.45	82.66	70.40	27.44
3	5	5	62.45	35.75	63.64	82.88	66.00	30.61
3	6	5	65.97	30.96	66.99	83.13	61.89	33.80
3	7	5	68.78	27.21	69.67	83.39	58.07	36.91
					5 0 8 -- 0 1 0			
5	1	8	37.79	80.36	42.40	81.41	86.82	20.63
5	2	8	40.63	71.23	44.83	81.45	83.66	21.32

TABLE VIII CONTINUED

MILLER INDICES H	K	L	ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES) 1 0 0	0 1 0	0 0 1	ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES) 1 0 0	0 1 0	0 0 1
					2 0 3 -- 0 1 0			
4	1	6	37.06	77.67	44.38	80.08	85.78	22.12
2	1	3	41.54	66.39	47.91	80.16	81.61	23.23
4	3	6	46.91	56.75	52.28	80.29	77.52	24.91
2	2	3	52.05	48.84	56.58	80.46	73.56	27.01
4	5	6	56.53	42.46	60.41	80.67	69.76	29.36
2	3	3	60.31	37.33	63.67	80.91	66.13	31.85
2	4	3	66.07	29.77	68.70	81.44	59.46	36.87
2	5	3	70.13	24.59	72.28	82.01	53.59	41.62
2	6	3	73.08	20.87	74.89	82.57	48.49	45.93
2	7	3	75.30	18.10	76.86	83.10	44.08	49.74
2	8	3	77.02	15.96	78.40	83.59	40.28	53.09
2	9	3	78.39	14.26	79.62	84.04	36.99	56.02
2	10	3	79.50	12.89	80.61	84.44	34.13	58.59
					5 0 7 -- 0 1 0			
5	1	7	34.98	79.80	45.48	78.56	86.40	23.52
5	2	7	38.44	70.21	47.90	78.63	82.83	24.28
5	3	7	42.90	61.64	51.18	78.74	79.31	25.47
					3 0 4 -- 0 1 0			
6	1	8	33.56	81.31	46.31	77.43	86.86	24.57
3	1	4	36.28	73.00	48.07	77.48	83.74	25.12
3	2	4	44.01	58.56	53.40	77.70	77.63	27.17
3	3	4	51.59	47.47	59.00	78.05	71.79	30.09
3	4	4	57.75	39.27	63.75	78.48	66.32	33.47
3	5	4	62.52	33.19	67.51	78.98	61.27	36.99
3	6	4	66.20	28.60	70.46	79.51	56.66	40.45
3	7	4	69.09	25.04	72.79	80.04	52.50	43.73
3	8	4	71.40	22.24	74.67	80.57	48.75	46.78
					4 0 5 -- 0 1 0			
4	1	5	33.53	76.78	48.50	75.90	85.02	26.39
4	2	5	39.19	64.84	51.97	76.06	80.11	27.64
4	3	5	45.58	54.83	56.20	76.32	75.35	29.54
4	4	5	51.39	46.79	60.26	76.65	70.78	31.88
4	5	5	56.28	40.42	63.82	77.05	66.46	34.47
4	6	5	60.29	35.36	66.80	77.48	62.40	37.17
					5 0 6 -- 0 1 0			
5	1	6	31.90	79.21	48.92	74.86	85.87	27.27
5	2	6	36.14	69.13	51.31	74.98	81.78	28.11
5	3	6	41.39	60.24	54.50	75.17	77.77	29.43
5	4	6	46.58	52.68	57.86	75.43	73.88	31.11
					6 0 7 -- 0 1 0			
6	1	7	30.84	80.89	49.26	74.12	86.47	27.91
6	2	7	34.10	72.22	50.99	74.21	82.96	28.51

TABLE VIII CONTINUED

MILLER INDICES			ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES)			ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES)		
H	K	L	1 0 0	0 1 0	0 0 1	1 0 0	0 1 0	0 0 1
					1 0 1 -- 0 1 0			
7	1	7	27.50	81.80	52.33	69.86	86.55	32.13
6	1	6	27.90	80.46	52.49	69.88	85.98	32.19
5	1	5	28.54	78.59	52.76	69.90	85.18	32.29
4	1	4	29.66	75.85	53.23	69.94	83.98	32.47
3	1	3	31.85	71.42	54.18	70.03	82.00	32.85
5	2	5	33.79	68.03	55.07	70.12	80.42	33.22
2	1	2	36.85	63.24	56.55	70.28	78.09	33.89
5	3	5	39.94	58.82	58.12	70.47	75.80	34.67
3	2	3	41.95	56.08	59.18	70.61	74.30	35.24
4	3	4	44.38	52.89	60.50	70.80	72.45	36.01
5	4	5	45.78	51.10	61.28	70.93	71.36	36.50
1	1	1	50.88	44.75	64.23	71.47	67.13	38.58
4	5	4	56.16	38.42	67.44	72.24	62.20	41.37
3	4	3	57.67	36.63	68.38	72.51	60.65	42.31
2	3	2	60.39	33.46	70.10	73.06	57.68	44.20
3	5	3	62.73	30.75	71.60	73.61	54.90	46.05
4	7	4	63.78	29.53	72.28	73.89	53.57	46.95
1	2	1	66.54	26.37	74.08	74.72	49.85	49.57
3	7	3	69.48	23.02	76.03	75.77	45.46	52.79
2	5	2	70.71	21.63	76.84	76.27	43.48	54.28
3	8	3	71.80	20.39	77.58	76.75	41.64	55.69
1	3	1	73.67	18.29	78.83	77.65	38.32	58.26
2	7	2	75.86	15.82	80.31	78.85	34.12	61.59
1	4	1	77.55	13.92	81.46	79.87	30.66	64.37
2	9	2	78.88	12.42	82.37	80.75	27.78	66.70
1	5	1	79.96	11.22	83.10	81.50	25.37	68.68
2	11	2	80.85	10.22	83.71	82.15	23.32	70.38
1	6	1	81.60	9.38	84.22	82.72	21.56	71.83
1	7	1	82.78	8.06	85.03	83.65	18.71	74.21
1	8	1	83.67	7.06	85.65	84.38	16.51	76.05
1	9	1	84.37	6.29	86.12	84.96	14.76	77.52
1	10	1	84.93	5.66	86.51	85.44	13.34	78.71
1	11	1	85.39	5.15	86.82	85.83	12.16	79.70
1	12	1	85.77	4.72	87.09	86.17	11.18	80.53
1	13	1	86.09	4.36	87.31	86.45	10.34	81.24
					7 0 6 -- 0 1 0			
7	1	6	24.73	81.48	55.35	65.20	86.11	36.83
7	2	6	28.39	73.31	56.59	65.38	82.26	37.35
					6 0 5 -- 0 1 0			
6	1	5	24.76	80.02	56.03	64.33	85.37	37.80
6	2	5	29.57	70.61	57.65	64.59	80.81	38.50
6	3	5	35.37	62.17	59.89	65.01	76.35	39.61
6	4	5	41.06	54.86	62.36	65.57	72.06	41.04
					5 0 4 -- 0 1 0			
5	1	4	24.95	77.97	57.03	63.06	84.29	39.23
5	2	4	31.48	66.92	59.21	63.48	78.69	40.24
5	3	4	38.64	57.41	62.04	64.14	73.30	41.78
5	4	4	45.13	49.56	64.95	64.99	68.20	43.71

TABLE VIII CONTINUED

MILLER INDICES			ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES)			ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES)		
H	K	L	1 0 0	0 1 0	0 0 1	1 0 0	0 1 0	0 0 1
5	5	4	50.62	43.19	67.62	65.97	63.43	45.87
5	6	4	55.17	38.03	69.95	67.02	59.03	48.12
					4 0 3 --	0 1 0		
8	1	6	22.17	82.31	57.68	60.84	86.26	41.16
4	1	3	25.56	74.90	58.61	61.04	82.55	41.57
4	2	3	34.69	61.64	61.65	61.81	75.35	43.11
4	3	3	43.43	51.00	65.21	62.96	68.59	45.38
4	4	3	50.58	42.81	68.49	64.36	62.40	48.04
4	5	3	56.20	36.54	71.26	65.88	56.83	50.83
4	6	3	60.60	31.70	73.53	67.41	51.89	53.58
4	7	3	64.08	27.89	75.38	68.89	47.54	56.17
4	8	3	66.88	24.85	76.89	70.28	43.72	58.57
					7 0 5 --	0 1 0		
7	1	5	21.81	81.15	58.61	59.23	85.59	42.85
7	2	5	26.22	72.71	59.78	59.53	81.23	43.39
7	3	5	31.64	64.97	61.47	60.00	76.97	44.24
					3 0 2 --	0 1 0		
6	1	4	21.46	79.58	59.90	56.92	84.63	45.28
3	1	2	27.36	69.81	61.40	57.40	79.36	46.01
6	3	4	34.05	61.12	63.48	58.15	74.26	47.14
3	2	2	40.33	53.67	65.74	59.12	69.40	48.58
6	5	4	45.84	47.41	67.95	60.25	64.84	50.24
3	3	2	50.54	42.20	69.97	61.47	60.59	52.00
3	4	2	57.85	34.21	73.34	64.01	53.07	55.60
3	5	2	63.12	28.54	75.90	66.45	46.79	59.00
3	6	2	67.00	24.39	77.85	68.67	41.57	62.03
3	7	2	69.96	21.23	79.36	70.62	37.25	64.68
3	8	2	72.27	18.78	80.55	72.32	33.63	66.96
3	9	2	74.11	16.82	81.52	73.80	30.60	68.92
3	10	2	75.62	15.22	82.31	75.07	28.02	70.61
					8 0 5 --	0 1 0		
8	1	5	19.47	82.07	60.68	54.62	85.82	47.42
8	2	5	23.51	74.43	61.56	54.94	81.67	47.84
					5 0 3 --	0 1 0		
5	1	3	21.24	77.36	61.76	53.38	83.17	49.07
5	2	3	29.36	65.84	63.74	54.25	76.53	50.08
5	3	3	37.58	56.07	66.28	55.57	70.24	51.61
5	4	3	44.68	48.10	68.84	57.19	64.41	53.48
5	5	3	50.53	41.72	71.17	58.97	59.09	55.52
5	6	3	55.27	36.62	73.19	60.80	54.31	57.60
5	7	3	59.13	32.49	74.90	62.58	50.03	59.62
					7 0 4 --	0 1 0		
7	1	4	18.80	80.84	62.11	51.53	84.99	50.61
7	2	4	24.14	72.12	63.20	52.04	80.05	51.14

TABLE VIII CONTINUED

MILLER INDICES H	K	L	ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES) 1 0 0	0 1 0	0 0 1	ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES) 1 0 0	0 1 0	0 0 1
7	3	4	30.33	64.18	64.76	52.85	75.25	51.98
7	4	4	36.32	57.17	66.54	53.90	70.66	53.06
					9 0 5 -- 0 1 0			
9	1	5	17.57	82.82	62.37	50.48	86.04	51.53
					2 0 1 -- 0 1 0			
8	1	4	16.71	81.83	63.87	46.84	85.33	55.26
6	1	3	18.13	79.17	64.09	46.98	83.78	55.36
4	1	2	21.56	73.98	64.68	47.37	80.72	55.65
6	2	3	25.36	69.05	65.45	47.89	77.71	56.04
8	3	4	27.29	66.70	65.88	48.20	76.23	56.27
2	1	1	32.95	60.14	67.30	49.28	71.90	57.08
6	4	3	39.80	52.56	69.31	51.01	66.46	58.39
4	3	2	42.85	49.26	70.30	51.96	63.89	59.11
6	5	3	45.65	46.26	71.25	52.94	61.42	59.86
2	2	1	50.55	41.05	73.01	54.94	56.83	61.41
4	5	2	56.42	34.86	75.27	57.90	50.75	63.72
2	3	1	60.94	30.14	77.09	60.66	45.57	65.90
4	7	2	64.47	26.46	78.57	63.15	41.16	67.89
2	4	1	67.28	23.53	79.77	65.36	37.42	69.67
4	9	2	69.56	21.16	80.76	67.30	34.21	71.25
2	5	1	71.44	19.20	81.58	69.01	31.47	72.64
2	6	1	74.35	16.19	82.88	71.83	27.02	74.94
2	7	1	76.49	13.97	83.83	74.05	23.61	76.76
2	8	1	78.12	12.28	84.57	75.81	20.93	78.21
2	9	1	79.41	10.95	85.15	77.24	18.78	79.39
2	10	1	80.44	9.88	85.62	78.42	17.01	80.37
2	11	1	81.30	9.00	86.01	79.40	15.55	81.19
2	12	1	82.01	8.26	86.34	80.24	14.31	81.88
					9 0 4 -- 0 1 0			
9	1	4	15.03	82.64	65.29	42.78	85.65	59.29
9	2	4	19.46	75.51	65.92	43.30	81.35	59.58
					7 0 3 -- 0 1 0			
7	1	3	15.80	80.54	65.86	41.68	84.35	60.58
7	2	3	22.27	71.56	66.84	42.59	78.80	61.04
7	3	3	29.25	63.43	68.23	43.99	73.46	61.76
7	4	3	35.74	56.31	69.82	45.75	68.40	62.68
7	5	3	41.46	50.19	71.43	47.73	63.67	63.74
					5 0 2 -- 0 1 0			
10	1	4	13.65	83.30	66.46	39.25	85.95	62.79
5	1	2	17.72	76.79	66.95	39.77	81.94	63.01
5	2	2	27.67	64.84	68.66	41.67	74.19	63.83
5	3	2	36.88	54.84	70.81	44.40	66.98	65.04
5	4	2	44.50	46.80	72.96	47.51	60.47	66.49
5	5	2	50.62	40.42	74.89	50.68	54.70	68.03
5	6	2	55.50	35.37	76.54	53.73	49.65	69.55
5	7	2	59.43	31.32	77.94	56.54	45.25	71.00

TABLE VIII CONTINUED

MILLER INDICES			ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES)			ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES)		
H	K	L	1 0 0	0 1 0	0 0 1	1 0 0	0 1 0	0 0 1
5	8	2	62.63	28.03	79.11	59.09	41.43	72.34
					8 0 3 -- 0 1 0			
8	1	3	13.98	81.61	67.25	37.29	84.85	64.91
8	2	3	19.82	73.56	67.98	38.18	79.78	65.23
8	3	3	26.24	66.13	69.05	39.55	74.87	65.73
8	4	3	32.35	59.46	70.32	41.28	70.18	66.39
					3 0 1 -- 0 1 0			
9	1	3	12.54	82.47	68.36	33.64	85.29	68.52
6	1	2	15.02	78.78	68.60	34.00	82.96	68.61
9	2	3	17.84	75.18	68.92	34.49	80.65	68.74
3	1	1	23.76	68.36	69.77	35.81	76.13	69.10
6	3	2	32.20	59.24	71.36	38.43	69.67	69.85
3	2	1	39.53	51.57	73.06	41.50	63.71	70.77
6	5	2	45.65	45.23	74.68	44.70	58.31	71.78
3	3	1	50.70	40.04	76.15	47.84	53.46	72.83
6	7	2	54.87	35.76	77.44	50.80	49.16	73.86
3	4	1	58.34	32.22	78.56	53.54	45.35	74.85
3	5	1	63.69	26.75	80.36	58.28	39.00	76.63
3	6	1	67.58	22.79	81.72	62.14	34.01	78.14
3	7	1	70.51	19.80	82.76	65.28	30.04	79.40
3	8	1	72.79	17.49	83.58	67.84	26.84	80.45
3	9	1	74.60	15.65	84.24	69.96	24.22	81.33
3	10	1	76.07	14.15	84.78	71.73	22.04	82.07
3	11	1	77.30	12.91	85.23	73.23	20.21	82.71
					10 0 3 -- 0 1 0			
10	1	3	11.36	83.17	69.27	30.57	85.68	71.55
10	2	3	16.21	76.53	69.72	31.38	81.41	71.71
					7 0 2 -- 0 1 0			
7	1	2	13.02	80.26	69.84	29.55	83.79	72.94
7	2	2	20.77	71.06	70.68	31.23	77.73	73.24
7	3	2	28.49	62.76	71.88	33.71	71.93	73.71
7	4	2	35.41	55.53	73.24	36.64	66.49	74.30
7	5	2	41.39	49.37	74.61	39.76	61.47	74.98
7	6	2	46.47	44.16	75.90	42.87	56.88	75.69
					11 0 3 -- 0 1 0			
11	1	3	10.38	83.75	70.03	27.97	86.02	74.12
					4 0 1 -- 0 1 0			
8	1	2	11.48	81.40	70.80	26.06	84.47	76.35
4	1	1	18.43	73.18	71.43	27.61	79.05	76.54
8	3	2	25.49	65.61	72.36	29.92	73.82	76.84
4	2	1	31.99	58.84	73.46	32.68	68.84	77.22
8	5	2	37.75	52.92	74.61	35.66	64.19	77.67
4	3	1	42.76	47.79	75.73	38.69	59.87	78.17
4	4	1	50.83	39.59	77.76	44.46	52.26	79.19

TABLE VIII CONTINUED

MILLER INDICES			ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES)			ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES)		
H	K	L	1 0 0	0 1 0	0 0 1	1 0 0	0 1 0	0 0 1
4	5	1	56.85	33.49	79.42	49.56	45.95	80.19
4	6	1	61.41	28.87	80.76	53.91	40.74	81.10
4	7	1	64.95	25.29	81.83	57.58	36.44	81.90
4	8	1	67.75	22.46	82.70	60.68	32.86	82.61
4	9	1	70.01	20.18	83.41	63.29	29.87	83.22
4	10	1	71.86	18.30	84.00	65.52	27.33	83.75
					9 0 2 -- 0 1 0			
9	1	2	10.27	82.31	71.56	23.26	85.03	79.07
9	2	2	16.55	74.89	72.05	24.70	80.14	79.20
9	3	2	23.03	67.95	72.79	26.83	75.39	79.39
9	4	2	29.11	61.63	73.69	29.42	70.83	79.65
					5 0 1 -- 0 1 0			
10	1	2	9.28	83.05	72.19	20.99	85.50	81.30
5	1	1	15.01	76.29	72.58	22.31	81.05	81.38
10	3	2	20.99	69.90	73.18	24.29	76.71	81.51
5	2	1	26.68	63.99	73.92	26.71	72.52	81.68
5	3	1	36.65	53.80	75.60	32.13	64.71	82.11
5	4	1	44.64	45.70	77.26	37.59	57.79	82.62
5	5	1	50.93	39.34	78.73	42.62	51.78	83.15
5	6	1	55.89	34.34	79.99	47.10	46.62	83.67
5	7	1	59.84	30.35	81.04	51.01	42.21	84.15
5	8	1	63.04	27.13	81.92	54.39	38.44	84.59
5	9	1	65.66	24.49	82.66	57.32	35.20	84.98
					11 0 2 -- 0 1 0			
11	1	2	8.47	83.65	72.70	19.10	85.89	83.14
11	2	2	13.72	77.46	73.02	20.32	81.82	83.19
					6 0 1 -- 0 1 0			
12	1	2	7.76	84.16	73.14	17.51	86.22	84.69
6	1	1	12.64	78.45	73.40	18.65	82.47	84.72
6	2	1	22.80	67.76	74.35	22.49	75.19	84.86
6	3	1	31.90	58.48	75.61	27.33	68.37	85.05
6	4	1	39.56	50.73	76.96	32.34	62.13	85.30
6	5	1	45.85	44.37	78.24	37.13	56.53	85.56
6	6	1	51.00	39.19	79.39	41.52	51.58	85.83
6	7	1	55.22	34.95	80.39	45.46	47.22	86.10
6	8	1	58.70	31.44	81.25	48.96	43.39	86.35
					7 0 1 -- 0 1 0			
7	1	1	10.91	80.02	74.03	16.00	83.51	87.15
7	2	1	19.86	70.62	74.72	19.37	77.19	87.21
7	3	1	28.14	62.18	75.69	23.70	71.17	87.29
7	4	1	35.37	54.87	76.79	28.27	65.55	87.39
7	5	1	41.52	48.67	77.89	32.74	60.39	87.51
7	6	1	46.70	43.46	78.92	36.94	55.71	87.63
7	7	1	51.05	39.08	79.85	40.79	51.49	87.76

TABLE VIII CONTINUED

MILLER INDICES			ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES)			ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES)		
H	K	L	1 0 0	0 1 0	0 0 1	1 0 0	0 1 0	0 0 1
				8 0 1 -- 0 1 0				
8	1	1	9.59	81.23	74.51	13.99	84.31	88.99
8	2	1	17.57	72.85	75.03	16.99	78.74	89.01
8	3	1	25.13	65.16	75.80	20.88	73.37	89.03
8	4	1	31.90	58.31	76.70	25.05	68.28	89.06
8	5	1	37.82	52.35	77.64	29.20	63.53	89.09
8	6	1	42.94	47.20	78.56	33.16	59.14	89.13
				9 0 1 -- 0 1 0				
9	1	1	8.56	82.17	74.89	12.42	84.94	90.43
9	2	1	15.75	74.63	75.30	15.12	79.96	90.42
9	3	1	22.66	67.59	75.92	18.64	75.13	90.41
9	4	1	28.99	61.20	76.67	22.45	70.50	90.40
9	5	1	34.65	55.50	77.48	26.30	66.13	90.39
				10 0 1 -- 0 1 0				
10	1	1	7.72	82.94	75.20	11.17	85.45	91.58
10	2	1	14.26	76.08	75.53	13.61	80.95	91.56
10	3	1	20.62	69.61	76.04	16.82	76.56	91.54
10	4	1	26.54	63.64	76.67	20.32	72.33	91.51
				11 0 1 -- 0 1 0				
11	1	1	7.03	83.56	75.46	10.14	85.86	92.52
11	2	1	13.02	77.29	75.73	12.37	81.77	92.50
11	3	1	18.90	71.31	76.15	15.32	77.75	92.47
				12 0 1 -- 0 1 0				
12	1	1	6.46	84.09	75.68	9.29	86.21	93.30
12	2	1	11.98	78.31	75.91	11.34	82.45	93.28
				13 0 1 -- 0 1 0				
13	1	1	5.97	84.54	75.87	8.56	86.50	93.96
				1 0 0 -- 0 1 0				
14	1	0	5.12	84.88	78.26	3.19	86.81	101.77
13	1	0	5.51	84.48	78.27	3.43	86.57	101.77
12	1	0	5.97	84.03	78.27	3.72	86.28	101.76
11	1	0	6.51	83.49	78.29	4.06	85.94	101.76
10	1	0	7.15	82.85	78.30	4.46	85.54	101.75
9	1	0	7.94	82.06	78.32	4.95	85.05	101.75
8	1	0	8.92	81.08	78.35	5.57	84.43	101.73
7	1	0	10.17	79.83	78.40	6.36	83.64	101.72
13	2	0	10.93	79.07	78.43	6.84	83.16	101.70
6	1	0	11.82	78.18	78.46	7.41	82.59	101.69
11	2	0	12.86	77.14	78.51	8.07	81.93	101.67
5	1	0	14.09	75.91	78.57	8.87	81.13	101.65
9	2	0	15.59	74.41	78.65	9.83	80.17	101.61
4	1	0	17.42	72.58	78.76	11.03	78.97	101.57
11	3	0	18.90	71.10	78.85	12.01	77.99	101.53

TABLE VIII CONTINUED

MILLER INDICES			ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES)			ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES)		
H	K	L	1 0 0	0 1 0	0 0 1	1 0 0	0 1 0	0 0 1
7	2	0	19.73	70.27	78.91	12.56	77.44	101.50
10	3	0	20.63	69.37	78.98	13.17	76.83	101.48
3	1	0	22.70	67.30	79.14	14.57	75.43	101.41
11	4	0	24.53	65.47	79.29	15.83	74.17	101.34
8	3	0	25.21	64.79	79.35	16.30	73.70	101.31
5	2	0	26.66	63.34	79.48	17.33	72.67	101.25
7	3	0	28.28	61.72	79.63	18.48	71.52	101.17
9	4	0	29.16	60.84	79.72	19.12	70.88	101.13
2	1	0	32.11	57.89	80.03	21.30	68.70	100.97
9	5	0	34.89	55.11	80.35	23.43	66.57	100.81
7	4	0	35.65	54.35	80.44	24.02	65.98	100.76
5	3	0	36.98	53.02	80.61	25.08	64.92	100.66
8	5	0	38.11	51.89	80.75	25.99	64.01	100.58
3	2	0	39.92	50.08	80.98	27.47	62.53	100.44
7	5	0	41.88	48.12	81.25	29.12	60.88	100.28
4	3	0	43.27	46.73	81.44	30.32	59.68	100.16
5	4	0	45.12	44.88	81.71	31.96	58.04	99.98
6	5	0	46.29	43.71	81.88	33.02	56.98	99.86
7	6	0	47.09	42.91	82.00	33.76	56.24	99.78
8	7	0	47.68	42.32	82.09	34.31	55.69	99.72
1	1	0	51.46	38.54	82.69	37.95	52.05	99.27
7	8	0	55.12	34.88	83.29	41.71	48.29	98.77
6	7	0	55.67	34.33	83.38	42.30	47.70	98.69
5	6	0	56.42	33.58	83.51	43.10	46.90	98.58
4	5	0	57.49	32.51	83.70	44.27	45.73	98.41
3	4	0	59.14	30.86	83.98	46.12	43.88	98.14
5	7	0	60.36	29.64	84.20	47.51	42.49	97.93
2	3	0	62.03	27.97	84.50	49.48	40.52	97.63
5	8	0	63.53	26.47	84.77	51.29	38.71	97.34
3	5	0	64.45	25.55	84.94	52.43	37.57	97.16
4	7	0	65.52	24.48	85.14	53.77	36.23	96.94
5	9	0	66.13	23.87	85.26	54.54	35.46	96.81
1	2	0	68.28	21.72	85.66	57.34	32.66	96.33
4	9	0	70.50	19.50	86.09	60.32	29.68	95.81
3	7	0	71.15	18.85	86.21	61.21	28.79	95.65
2	5	0	72.32	17.68	86.44	62.85	27.15	95.35
3	8	0	73.37	16.63	86.65	64.32	25.68	95.08
4	11	0	73.84	16.16	86.74	65.00	25.00	94.95
1	3	0	75.13	14.87	86.99	66.86	23.14	94.61
3	10	0	76.56	13.44	87.28	68.96	21.04	94.21
2	7	0	77.18	12.82	87.40	69.88	20.12	94.03
3	11	0	77.74	12.26	87.51	70.73	19.27	93.87
1	4	0	78.74	11.26	87.71	72.23	17.77	93.58
2	9	0	79.96	10.04	87.96	74.10	15.90	93.21
1	5	0	80.95	9.05	88.16	75.62	14.38	92.91
2	11	0	81.76	8.24	88.32	76.88	13.12	92.66
1	6	0	82.44	7.56	88.46	77.94	12.06	92.45
2	13	0	83.01	6.99	88.58	78.84	11.16	92.27
1	7	0	83.51	6.49	88.68	79.62	10.38	92.11
1	8	0	84.31	5.69	88.84	80.89	9.11	91.85
1	9	0	84.94	5.06	88.97	81.89	8.11	91.65
1	10	0	85.44	4.56	89.07	82.69	7.31	91.49
1	11	0	85.86	4.14	89.15	83.35	6.65	91.36
1	12	0	86.20	3.80	89.22	83.90	6.10	91.24
1	13	0	86.49	3.51	89.28	84.37	5.63	91.15
1	14	0	86.74	3.26	89.33	84.77	5.23	91.07

TABLE VIII CONTINUED

MILLER INDICES H	K	L	ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES) 1 0 0	0 1 0	0 0 1	ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES) 1 0 0	0 1 0	0 0 1
					13 0 -1 -- 0 1 0			
13	1	-1	6.07	84.44	80.71	8.10	86.69	109.16
					12 0 -1 -- 0 1 0			
12	1	-1	6.58	83.98	80.92	8.75	86.43	109.74
12	2	-1	12.20	78.09	81.07	10.69	82.88	109.62
					11 0 -1 -- 0 1 0			
11	1	-1	7.18	83.43	81.17	9.51	86.12	110.43
11	2	-1	13.29	77.03	81.34	11.61	82.27	110.28
11	3	-1	19.27	70.94	81.60	14.38	78.49	110.05
					10 0 -1 -- 0 1 0			
10	1	-1	7.90	82.77	81.48	10.41	85.75	111.24
10	2	-1	14.58	75.77	81.67	12.69	81.56	111.06
10	3	-1	21.06	69.18	81.97	15.70	77.45	110.77
10	4	-1	27.07	63.11	82.34	19.01	73.46	110.38
					9 0 -1 -- 0 1 0			
9	1	-1	8.77	81.97	81.85	11.49	85.32	112.21
9	2	-1	16.14	74.25	82.08	14.00	80.70	111.98
9	3	-1	23.19	67.07	82.42	17.28	76.20	111.62
9	4	-1	29.62	60.58	82.83	20.87	71.86	111.13
9	5	-1	35.34	54.82	83.28	24.51	67.73	110.55
					8 0 -1 -- 0 1 0			
8	1	-1	9.87	80.98	82.33	12.82	84.78	113.41
8	2	-1	18.06	72.38	82.58	15.59	79.65	113.11
8	3	-1	25.77	64.53	82.98	19.21	74.68	112.63
8	4	-1	32.64	57.58	83.43	23.12	69.93	112.01
8	5	-1	38.63	51.55	83.91	27.04	65.46	111.28
8	6	-1	43.76	46.38	84.37	30.83	61.28	110.48
					7 0 -1 -- 0 1 0			
7	1	-1	11.26	79.70	82.91	14.49	84.11	114.91
7	2	-1	20.47	70.03	83.23	17.59	78.35	114.50
7	3	-1	28.93	61.40	83.68	21.59	72.81	113.86
7	4	-1	36.27	53.99	84.19	25.87	67.59	113.05
7	5	-1	42.46	47.71	84.67	30.10	62.73	112.11
7	6	-1	47.64	42.52	85.14	34.13	58.26	111.11
7	7	-1	51.97	38.17	85.55	37.89	54.18	110.08
					6 0 -1 -- 0 1 0			
12	1	-2	8.08	83.94	83.61	15.62	86.62	117.00
6	1	-1	13.12	78.01	83.71	16.65	83.26	116.85
6	2	-1	23.60	66.99	84.08	20.14	76.69	116.27
6	3	-1	32.89	57.50	84.58	24.60	70.47	115.38
6	4	-1	40.64	49.65	85.10	29.50	64.68	114.27

TABLE VIII CONTINUED

MILLER INDICES			ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES)			ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES)		
H	K	L	1 0 0	0 1 0	0 0 1	1 0 0	0 1 0	0 0 1
6	5	-1	46.95	43.28	85.60	33.86	59.40	113.04
6	6	-1	52.07	38.13	86.04	38.11	54.64	111.77
6	7	-1	56.24	33.93	86.42	42.00	50.38	110.51
6	8	-1	59.67	30.48	86.74	45.51	46.59	109.29
				11 0 -2 -- 0 1 0				
11	1	-2	8.82	83.39	84.10	16.88	86.35	118.22
11	2	-2	14.29	76.94	84.22	17.98	82.73	118.04
				5 0 -1 -- 0 1 0				
10	1	-2	9.71	82.72	84.70	18.35	86.04	119.65
5	1	-1	15.68	75.68	84.82	19.54	82.12	119.42
10	3	-2	21.88	69.04	85.01	21.32	78.27	119.05
5	2	-1	27.75	62.95	85.24	23.52	74.53	118.55
5	3	-1	37.92	52.55	85.76	28.51	67.46	117.26
5	4	-1	45.96	44.39	86.27	33.65	61.04	115.71
5	5	-1	52.21	38.07	86.71	38.52	55.32	114.06
5	6	-1	57.10	33.13	87.08	42.95	50.30	112.43
5	7	-1	60.98	29.23	87.39	46.89	45.91	110.87
5	8	-1	64.09	26.08	87.65	50.37	42.09	109.41
5	9	-1	66.64	23.52	87.87	53.44	38.76	108.09
				9 0 -2 -- 0 1 0				
9	1	-2	10.79	81.92	85.43	20.10	85.68	121.34
9	2	-2	17.37	74.14	85.56	21.37	81.41	121.04
9	3	-2	24.11	66.92	85.76	23.29	77.23	120.57
9	4	-2	30.38	60.40	85.99	25.64	73.19	119.95
				4 0 -1 -- 0 1 0				
8	1	-2	12.14	80.91	86.34	22.19	85.25	123.36
4	1	-1	19.44	72.26	86.47	23.57	80.57	122.98
8	3	-2	26.80	64.37	86.66	25.63	76.01	122.37
4	2	-1	33.49	57.39	86.88	28.14	71.62	121.57
8	5	-2	39.36	51.35	87.11	30.90	67.45	120.63
4	3	-1	44.41	46.18	87.33	33.74	63.51	119.59
4	4	-1	52.44	38.01	87.72	39.30	56.40	117.36
4	5	-1	58.34	32.01	88.04	44.38	50.29	115.12
4	6	-1	62.78	27.52	88.29	48.84	45.10	113.00
4	7	-1	66.19	24.06	88.49	52.71	40.70	111.09
4	8	-1	68.88	21.34	88.65	56.04	36.96	109.38
4	9	-1	71.04	19.15	88.79	58.90	33.78	107.86
4	10	-1	72.82	17.36	88.90	61.37	31.05	106.53
				11 0 -3 -- 0 1 0				
11	1	-3	11.04	83.36	87.07	23.54	86.61	125.03
				7 0 -2 -- 0 1 0				
7	1	-2	13.87	79.63	87.52	24.73	84.74	125.81
7	2	-2	22.05	69.90	87.63	26.23	79.56	125.30
7	3	-2	30.10	61.23	87.79	28.45	74.56	124.50

TABLE VIII CONTINUED

MILLER INDICES			ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES)			ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES)		
H	K	L	1 0 0	0 1 0	0 0 1	1 0 0	0 1 0	0 0 1
7	4	-2	37.21	53.80	87.96	31.14	69.78	123.46
7	5	-2	43.27	47.54	88.14	34.05	65.28	122.26
7	6	-2	48.35	42.33	88.30	37.03	61.08	120.95
					10 0 -3 -- 0 1 0			
10	1	-3	12.15	82.70	87.96	25.40	86.36	126.86
10	2	-3	17.30	75.63	88.01	26.12	82.74	126.60
					3 0 -1 -- 0 1 0			
9	1	-3	13.50	81.89	89.05	27.56	86.07	128.98
6	1	-2	16.16	77.94	89.07	27.88	84.12	128.85
9	2	-3	19.16	74.10	89.08	28.32	82.18	128.66
3	1	-1	25.42	66.86	89.12	29.51	78.35	128.14
6	3	-2	34.22	57.34	89.20	31.90	72.82	127.05
3	2	-1	41.70	49.48	89.27	34.76	67.60	125.66
6	5	-2	47.84	43.11	89.35	37.82	62.74	124.09
3	3	-1	52.84	37.95	89.41	40.91	58.27	122.44
6	7	-2	56.91	33.77	89.47	43.89	54.19	120.76
3	4	-1	60.27	30.33	89.52	46.72	50.50	119.11
3	5	-1	65.40	25.08	89.59	51.77	44.14	116.05
3	6	-1	69.09	21.31	89.65	56.03	38.96	113.36
3	7	-1	71.86	18.48	89.70	59.59	34.73	111.05
3	8	-1	73.99	16.30	89.73	62.56	31.24	109.09
3	9	-1	75.69	14.57	89.76	65.06	28.33	107.41
3	10	-1	77.07	13.17	89.78	67.18	25.88	105.98
3	11	-1	78.21	12.01	89.80	68.99	23.80	104.74
					8 0 -3 -- 0 1 0			
8	1	-3	15.19	80.89	90.41	30.09	85.74	131.46
8	2	-3	21.45	72.23	90.40	30.89	81.53	131.05
8	3	-3	28.26	64.32	90.38	32.14	77.41	130.39
8	4	-3	34.63	57.34	90.35	33.74	73.41	129.52
					5 0 -2 -- 0 1 0			
10	1	-4	14.91	82.69	91.23	31.39	86.67	132.93
5	1	-2	19.32	75.62	91.21	31.86	83.36	132.66
5	2	-2	29.90	62.85	91.11	33.62	76.89	131.64
5	3	-2	39.45	52.43	90.99	36.18	70.74	130.10
5	4	-2	47.15	44.28	90.87	39.19	65.02	128.20
5	5	-2	53.19	37.96	90.77	42.36	59.78	126.13
5	6	-2	57.93	33.03	90.68	45.50	55.05	124.00
5	7	-2	61.69	29.13	90.61	48.50	50.81	121.92
5	8	-2	64.73	25.99	90.55	51.28	47.02	119.94
					7 0 -3 -- 0 1 0			
7	1	-3	17.34	79.63	92.15	33.07	85.36	134.38
7	2	-3	24.32	69.89	92.05	33.91	80.79	133.84
7	3	-3	31.72	61.23	91.92	35.22	76.33	132.99
7	4	-3	38.47	53.79	91.76	36.89	72.03	131.88
7	5	-3	44.29	47.53	91.61	38.81	67.93	130.57

TABLE VIII CONTINUED

MILLER INDICES H	K	L	ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES) 1 0 0	0 1 0	0 0 1	ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES) 1 0 0	0 1 0	0 0 1
					9 0 -4 -- 0 1 0			
9	1	-4	16.57	81.90	92.68	33.77	86.44	135.28
9	2	-4	21.38	74.11	92.61	34.25	82.91	134.95
					2 0 -1 -- 0 1 0			
8	1	-4	18.62	80.92	94.48	36.48	86.19	137.96
6	1	-3	20.18	77.97	94.44	36.61	84.93	137.85
4	1	-2	23.92	72.28	94.32	36.98	82.42	137.54
6	2	-3	28.01	66.92	94.17	37.49	79.94	137.12
8	3	-4	30.07	64.39	94.09	37.79	78.72	136.88
2	1	-1	36.04	57.42	93.82	38.85	75.10	135.99
6	4	-3	43.08	49.56	93.45	40.58	70.47	134.54
4	3	-2	46.15	46.21	93.27	41.54	68.24	133.73
6	5	-3	48.94	43.19	93.10	42.55	66.09	132.87
2	2	-1	53.75	38.04	92.79	44.65	61.98	131.08
4	5	-2	59.39	32.04	92.40	47.86	56.37	128.30
2	3	-1	63.65	27.54	92.10	50.96	51.41	125.57
4	7	-2	66.94	24.09	91.85	53.86	47.04	123.00
2	4	-1	69.54	21.36	91.65	56.51	43.22	120.64
4	9	-2	71.63	19.17	91.49	58.89	39.87	118.50
2	5	-1	73.34	17.38	91.35	61.04	36.93	116.57
2	6	-1	75.99	14.62	91.14	64.67	32.07	113.27
2	7	-1	77.92	12.60	90.99	67.59	28.23	110.62
2	8	-1	79.39	11.07	90.87	69.96	25.17	108.45
2	9	-1	80.54	9.86	90.78	71.91	22.67	106.67
2	10	-1	81.47	8.89	90.70	73.53	20.60	105.18
2	11	-1	82.23	8.10	90.64	74.90	18.87	103.93
2	12	-1	82.87	7.43	90.59	76.06	17.39	102.85
					9 0 -5 -- 0 1 0			
9	1	-5	19.80	81.94	96.29	38.87	86.78	140.43
					7 0 -4 -- 0 1 0			
7	1	-4	21.23	79.69	96.76	39.59	85.92	141.02
7	2	-4	27.08	70.01	96.46	40.10	81.88	140.49
7	3	-4	33.73	61.38	96.03	40.93	77.92	139.65
7	4	-4	39.99	53.97	95.55	42.01	74.08	138.54
					5 0 -3 -- 0 1 0			
5	1	-3	24.06	75.74	97.56	40.86	84.44	141.99
5	2	-3	32.87	63.06	96.95	41.77	78.98	140.99
5	3	-3	41.47	52.68	96.20	43.16	73.72	139.45
5	4	-3	48.64	44.54	95.46	44.92	68.72	137.53
5	5	-3	54.36	38.21	94.81	46.90	64.04	135.38
5	6	-3	58.89	33.26	94.27	48.99	59.71	133.12
5	7	-3	62.50	29.35	93.81	51.10	55.72	130.85
					8 0 -5 -- 0 1 0			
8	1	-5	22.22	80.99	98.50	41.61	86.59	143.15
8	2	-5	26.68	72.41	98.20	41.95	83.21	142.75

TABLE VIII CONTINUED

MILLER INDICES H	K	L	ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES) 1 0 0	0 1 0	0 0 1	ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES) 1 0 0	0 1 0	0 0 1
					3 0 -2 -- 0 1 0			
6	1	-4	24.64	78.11	99.73	43.16	85.62	144.54
3	1	-2	31.12	67.17	99.16	43.69	81.29	143.85
6	3	-4	38.24	57.73	98.40	44.52	77.06	142.76
3	2	-2	44.72	49.90	97.59	45.62	72.97	141.36
6	5	-4	50.22	43.54	96.83	46.91	69.05	139.72
3	3	-2	54.79	38.37	96.16	48.34	65.32	137.93
3	4	-2	61.69	30.70	95.06	51.41	58.50	134.15
3	5	-2	66.51	25.41	94.25	54.49	52.55	130.43
3	6	-2	70.01	21.60	93.65	57.41	47.42	126.97
3	7	-2	72.63	18.74	93.18	60.07	43.00	123.86
3	8	-2	74.67	16.54	92.82	62.45	39.22	121.10
3	9	-2	76.29	14.78	92.53	64.56	35.96	118.66
3	10	-2	77.60	13.36	92.29	66.43	33.14	116.52
					7 0 -5 -- 0 1 0			
7	1	-5	25.27	79.82	101.28	44.68	86.39	146.18
7	2	-5	30.15	70.25	100.78	45.02	82.81	145.68
7	3	-5	36.01	61.69	100.08	45.57	79.29	144.88
					4 0 -3 -- 0 1 0			
8	1	-6	25.86	81.11	102.44	45.75	86.93	147.33
4	1	-3	29.63	72.63	102.01	45.99	83.88	146.95
4	2	-3	39.45	57.97	100.65	46.90	77.91	145.52
4	3	-3	48.38	46.82	99.15	48.30	72.18	143.38
4	4	-3	55.35	38.63	97.82	50.04	66.80	140.79
4	5	-3	60.62	32.59	96.74	51.98	61.82	138.00
4	6	-3	64.64	28.05	95.88	54.00	57.27	135.16
4	7	-3	67.77	24.54	95.20	56.01	53.13	132.41
4	8	-3	70.25	21.78	94.64	57.95	49.40	129.80
					5 0 -4 -- 0 1 0			
5	1	-4	29.23	76.04	103.73	47.29	85.30	148.58
5	2	-4	36.38	63.56	102.65	47.81	80.65	147.66
5	3	-4	43.88	53.28	101.30	48.64	76.13	146.23
5	4	-4	50.39	45.15	99.98	49.73	71.78	144.42
5	5	-4	55.70	38.81	98.82	51.00	67.63	142.36
5	6	-4	59.96	33.83	97.82	52.39	63.72	140.15
					6 0 -5 -- 0 1 0			
6	1	-5	29.21	78.35	104.86	48.12	86.18	149.58
6	2	-5	34.53	67.58	104.01	48.46	82.39	148.94
6	3	-5	40.72	58.25	102.87	49.01	78.67	147.93
6	4	-5	46.57	50.48	101.66	49.73	75.04	146.61
					7 0 -6 -- 0 1 0			
7	1	-6	29.31	80.01	105.67	48.70	86.78	150.25
7	2	-6	33.38	70.59	104.99	48.94	83.59	149.79

TABLE VIII CONTINUED

MILLER INDICES H	K	L	ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES) 1 0 0	0 1 0	0 0 1	ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES) 1 0 0	0 1 0	0 0 1
					1 0 -1 -- 0 1 0			
7	1	-7	33.27	80.24	109.87	51.93	87.11	153.52
6	1	-6	33.71	78.66	109.76	51.95	86.63	153.46
5	1	-5	34.43	76.47	109.59	51.98	85.96	153.38
4	1	-4	35.67	73.25	109.28	52.05	84.95	153.22
3	1	-3	38.06	68.14	108.67	52.18	83.28	152.88
5	2	-5	40.15	64.29	108.10	52.31	81.95	152.54
2	1	-2	43.37	58.96	107.19	52.56	79.98	151.95
5	3	-5	46.54	54.17	106.24	52.84	78.03	151.25
3	2	-3	48.57	51.26	105.60	53.06	76.74	150.73
4	3	-4	50.97	47.93	104.83	53.36	75.15	150.03
5	4	-5	52.33	46.08	104.38	53.55	74.21	149.59
1	1	-1	57.17	39.72	102.73	54.40	70.53	147.67
4	5	-4	61.99	33.61	101.01	55.62	66.16	145.06
3	4	-3	63.34	31.93	100.51	56.05	64.77	144.16
2	3	-2	65.73	28.98	99.62	56.94	62.07	142.35
3	5	-3	67.76	26.50	98.85	57.86	59.50	140.55
4	7	-4	68.66	25.40	98.51	58.33	58.26	139.66
1	2	-1	71.01	22.56	97.60	59.72	54.74	137.04
3	7	-3	73.47	19.60	96.64	61.55	50.49	133.74
2	5	-2	74.48	18.38	96.24	62.44	48.53	132.19
3	8	-3	75.38	17.31	95.89	63.30	46.69	130.70
1	3	-1	76.91	15.48	95.28	64.94	43.32	127.94
2	7	-2	78.70	13.35	94.57	67.16	38.95	124.29
1	4	-1	80.06	11.73	94.02	69.11	35.27	121.17
2	9	-2	81.14	10.46	93.59	70.81	32.16	118.49
1	5	-1	82.01	9.43	93.24	72.30	29.50	116.19
2	11	-2	82.72	8.59	92.95	73.60	27.22	114.20
1	6	-1	83.32	7.88	92.71	74.73	25.25	112.47
1	7	-1	84.26	6.77	92.33	76.62	22.01	109.62
1	8	-1	84.97	5.93	92.04	78.12	19.48	107.39
1	9	-1	85.53	5.27	91.82	79.33	17.45	105.59
1	10	-1	85.97	4.75	91.64	80.32	15.80	104.12
1	11	-1	86.34	4.32	91.49	81.15	14.42	102.90
1	12	-1	86.64	3.96	91.36	81.85	13.27	101.87
1	13	-1	86.90	3.66	91.26	82.46	12.28	100.99
					6 0 -7 -- 0 1 0			
6	1	-7	38.04	79.03	114.38	54.96	86.99	156.52
6	2	-7	41.58	68.80	113.08	55.13	84.00	155.98
					5 0 -6 -- 0 1 0			
5	1	-6	39.43	77.00	115.06	55.51	86.47	156.97
5	2	-6	43.97	65.21	113.24	55.74	82.97	156.22
5	3	-6	49.33	55.28	110.93	56.10	79.52	155.05
5	4	-6	54.39	47.27	108.62	56.58	76.14	153.54
					4 0 -5 -- 0 1 0			
4	1	-5	41.53	74.07	115.97	56.30	85.73	157.59
4	2	-5	47.46	60.28	113.29	56.61	81.51	156.48
4	3	-5	53.75	49.43	110.24	57.11	77.37	154.78
4	4	-5	59.14	41.22	107.46	57.78	73.37	152.66

TABLE VIII CONTINUED

MILLER INDICES			ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES)			ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES)		
H	K	L	1 0 0	0 1 0	0 0 1	1 0 0	0 1 0	0 0 1
4	5	-5	63.46	35.02	105.15	58.58	69.53	150.29
4	6	-5	66.88	30.28	103.28	59.48	65.87	147.78
					3 0 -4 -- 0 1 0			
6	1	-8	42.12	79.44	118.68	57.39	87.29	158.97
3	1	-4	45.01	69.54	117.22	57.51	84.60	158.48
3	2	-4	52.79	53.28	113.04	57.98	79.29	156.66
3	3	-4	59.82	41.79	108.99	58.73	74.16	154.02
3	4	-4	65.16	33.83	105.77	59.69	69.28	150.92
3	5	-4	69.11	28.20	103.34	60.81	64.69	147.64
3	6	-4	72.07	24.08	101.49	62.01	60.43	144.36
3	7	-4	74.34	20.96	100.06	63.26	56.49	141.18
3	8	-4	76.13	18.53	98.92	64.52	52.89	138.17
					5 0 -7 -- 0 1 0			
5	1	-7	44.10	77.59	120.08	58.24	86.88	159.75
5	2	-7	47.70	66.24	118.01	58.40	83.77	159.07
5	3	-7	52.15	56.56	115.35	58.66	80.71	158.01
					2 0 -3 -- 0 1 0			
4	1	-6	46.95	74.99	121.97	59.41	86.31	160.79
2	1	-3	51.48	61.80	118.89	59.62	82.66	159.80
4	3	-6	56.59	51.19	115.29	59.95	79.06	158.29
2	2	-3	61.19	43.00	111.95	60.41	75.55	156.39
4	5	-6	65.00	36.72	109.14	60.96	72.15	154.25
2	3	-3	68.09	31.87	106.82	61.60	68.87	151.96
2	4	-3	72.62	25.00	103.39	63.04	62.74	147.26
2	5	-3	75.70	20.46	101.05	64.61	57.21	142.70
2	6	-3	77.89	17.27	99.36	66.21	52.30	138.47
2	7	-3	79.52	14.92	98.11	67.75	47.95	134.64
2	8	-3	80.77	13.12	97.15	69.20	44.13	131.22
2	9	-3	81.76	11.71	96.39	70.55	40.78	128.17
2	10	-3	82.56	10.56	95.77	71.78	37.82	125.46
					5 0 -8 -- 0 1 0			
5	1	-8	48.39	78.21	124.63	60.41	87.20	161.95
5	2	-8	51.24	67.33	122.40	60.52	84.42	161.33
					3 0 -5 -- 0 1 0			
3	1	-5	51.36	71.14	124.65	61.09	85.51	162.23
3	2	-5	56.99	55.65	119.74	61.38	81.07	160.67
3	3	-5	62.56	44.29	114.80	61.84	76.73	158.39
3	4	-5	67.07	36.19	110.78	62.45	72.55	155.68
3	5	-5	70.53	30.34	107.67	63.17	68.55	152.75
3	6	-5	73.19	26.00	105.27	63.99	64.75	149.76
3	7	-5	75.26	22.69	103.40	64.86	61.18	146.82
					4 0 -7 -- 0 1 0			
4	1	-7	51.84	75.94	127.28	61.77	86.76	163.21
4	2	-7	55.28	63.40	123.94	61.92	83.55	162.33

TABLE VIII CONTINUED

MILLER INDICES H	K	L	ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES) 1 0 0	0 1 0	0 0 1	ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES) 1 0 0	0 1 0	0 0 1
4	3	-7	59.38	53.09	119.95	62.15	80.37	160.98
4	4	-7	63.25	44.96	116.18	62.48	77.26	159.27
					5 0 -9 -- 0 1 0			
5	1	-9	52.29	78.83	128.74	62.16	87.47	163.73
					1 0 -2 -- 0 1 0			
4	1	-8	56.16	76.88	131.94	63.62	87.12	165.10
3	1	-6	56.91	72.73	130.95	63.65	86.16	164.89
2	1	-4	58.79	65.00	128.46	63.72	84.26	164.31
3	2	-6	60.95	58.13	125.65	63.83	82.36	163.54
4	3	-8	62.06	55.03	124.22	63.90	81.42	163.09
1	1	-2	65.28	47.00	120.12	64.14	78.62	161.55
3	4	-6	69.00	38.81	115.47	64.55	74.98	159.15
2	3	-4	70.58	35.56	113.52	64.79	73.21	157.87
3	5	-6	71.98	32.75	111.80	65.05	71.46	156.55
1	2	-2	74.33	28.20	108.92	65.62	68.08	153.85
2	5	-4	76.98	23.21	105.69	66.58	63.30	149.81
1	3	-2	78.91	19.67	103.35	67.61	58.88	145.93
2	7	-4	80.36	17.03	101.60	68.67	54.85	142.29
1	4	-2	81.49	15.01	100.24	69.72	51.17	138.92
2	9	-4	82.38	13.40	99.15	70.74	47.84	135.83
1	5	-2	83.11	12.10	98.27	71.72	44.83	133.01
1	6	-2	84.23	10.13	96.93	73.51	39.64	128.12
1	7	-2	85.03	8.71	95.96	75.07	35.38	124.07
1	8	-2	85.64	7.63	95.23	76.42	31.85	120.70
1	9	-2	86.12	6.79	94.66	77.58	28.91	117.89
1	10	-2	86.51	6.12	94.20	78.58	26.43	115.51
1	11	-2	86.82	5.57	93.82	79.44	24.32	113.48
1	12	-2	87.08	5.11	93.50	80.20	22.50	111.73
					4 0 -9 -- 0 1 0			
4	1	-9	59.97	77.76	136.00	65.10	87.41	166.61
4	2	-9	61.98	66.54	132.48	65.18	84.83	165.90
					3 0 -7 -- 0 1 0			
3	1	-7	61.64	74.23	136.24	65.55	86.66	166.87
3	2	-7	64.55	60.54	130.80	65.68	83.34	165.68
3	3	-7	67.88	49.72	124.93	65.89	80.06	163.92
3	4	-7	70.91	41.51	119.83	66.19	76.85	161.79
3	5	-7	73.43	35.30	115.70	66.55	73.72	159.45
					2 0 -5 -- 0 1 0			
4	1	-10	63.30	78.58	139.55	66.31	87.64	167.85
2	1	-5	64.85	68.00	136.04	66.37	85.30	167.20
2	2	-5	69.11	51.05	127.14	66.62	80.66	164.90
2	3	-5	73.04	39.52	119.60	67.02	76.13	161.79
2	4	-5	76.04	31.74	114.11	67.54	71.78	158.34
2	5	-5	78.27	26.33	110.14	68.17	67.64	154.80
2	6	-5	79.93	22.41	107.22	68.86	63.73	151.32
2	7	-5	81.21	19.47	105.00	69.61	60.06	147.98

TABLE VIII CONTINUED

MILLER INDICES			ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES)			ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES)		
H	K	L	1 0 0	0 1 0	0 0 1	1 0 0	0 1 0	0 0 1
2	8	-5	82.21	17.19	103.26	70.37	56.65	144.81
					3 0 -8 -- 0 1 0			
3	1	-8	65.65	75.58	140.68	67.02	87.04	168.40
3	2	-8	67.75	62.78	135.26	67.11	84.10	167.34
3	3	-8	70.30	52.35	129.23	67.27	81.18	165.76
3	4	-8	72.74	44.19	123.83	67.49	78.32	163.85
					1 0 -3 -- 0 1 0			
3	1	-9	69.04	76.78	144.41	68.18	87.35	169.61
2	1	-6	69.73	70.59	141.99	68.22	86.02	169.20
3	2	-9	70.58	64.83	139.12	68.26	84.70	168.65
1	1	-3	72.52	54.82	133.06	68.38	82.09	167.23
2	3	-6	75.38	43.41	125.03	68.64	78.22	164.56
1	2	-3	77.73	35.35	118.90	69.00	74.46	161.56
2	5	-6	79.55	29.57	114.35	69.43	70.83	158.45
1	3	-3	80.96	25.31	110.92	69.92	67.36	155.34
2	7	-6	82.07	22.07	108.29	70.46	64.05	152.30
1	4	-3	82.95	19.53	106.22	71.03	60.92	149.38
1	5	-3	84.24	15.84	103.18	72.21	55.20	143.95
1	6	-3	85.15	13.30	101.08	73.40	50.17	139.12
1	7	-3	85.81	11.46	99.55	74.54	45.78	134.88
1	8	-3	86.32	10.06	98.39	75.60	41.96	131.17
1	9	-3	86.72	8.96	97.47	76.57	38.63	127.93
1	10	-3	87.04	8.07	96.74	77.45	35.73	125.10
1	11	-3	87.31	7.35	96.13	78.25	33.18	122.61
					3 0 -10 -- 0 1 0			
3	1	-10	71.93	77.83	147.57	69.13	87.60	170.59
3	2	-10	73.06	66.67	142.46	69.19	85.20	169.73
					2 0 -7 -- 0 1 0			
2	1	-7	73.63	72.76	146.69	69.57	86.56	170.67
2	2	-7	75.48	58.17	138.03	69.68	83.14	168.95
2	3	-7	77.53	47.05	129.83	69.87	79.77	166.61
2	4	-7	79.33	38.85	123.30	70.12	76.48	163.97
2	5	-7	80.80	32.80	118.30	70.43	73.27	161.20
2	6	-7	81.98	28.24	114.46	70.79	70.16	158.41
					3 0 -11 -- 0 1 0			
3	1	-11	74.39	78.76	150.26	69.92	87.80	171.41
					1 0 -4 -- 0 1 0			
2	1	-8	76.79	74.57	150.46	70.60	86.97	171.78
1	1	-4	78.02	61.09	142.19	70.68	83.95	170.27
2	3	-8	79.48	50.37	134.03	70.82	80.97	168.19
1	2	-4	80.84	42.16	127.29	71.01	78.04	165.84
2	5	-8	82.00	35.92	121.97	71.24	75.17	163.55
1	3	-4	82.96	31.12	117.80	71.52	72.37	160.83
1	4	-4	84.39	24.36	111.85	72.16	67.04	155.86

TABLE VIII CONTINUED

MILLER INDICES H	K	L	ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES) 1 0 0	0 1 0	0 0 1	ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES) 1 0 0	0 1 0	0 0 1
1	5	-4	85.37	19.91	107.90	72.90	62.09	151.15
1	6	-4	86.07	16.80	105.12	73.69	57.56	146.77
1	7	-4	86.59	14.51	103.07	74.50	53.44	142.76
1	8	-4	87.00	12.76	101.49	75.30	49.72	139.12
1	9	-4	87.32	11.38	100.26	76.07	46.37	135.84
1	10	-4	87.58	10.27	99.26	76.80	43.35	132.87
					2 0 -9 -- 0 1 0			
2	1	-9	79.36	76.07	153.51	71.41	87.29	172.66
2	2	-9	80.19	63.62	145.70	71.47	84.59	171.30
2	3	-9	81.22	53.35	137.72	71.58	81.92	169.44
2	4	-9	82.24	45.23	130.89	71.72	79.28	167.32
					1 0 -5 -- 0 1 0			
2	1	-10	81.49	77.33	156.03	72.07	87.55	173.37
1	1	-5	82.04	65.80	148.68	72.12	85.11	172.14
2	3	-10	82.77	56.01	140.95	72.20	82.69	170.45
1	2	-5	83.52	48.05	134.15	72.32	80.30	168.52
1	3	-5	84.81	36.56	123.91	72.63	75.62	164.38
1	4	-5	85.77	29.08	117.08	73.05	71.12	160.18
1	5	-5	86.46	23.99	112.38	73.54	66.86	156.09
1	6	-5	86.98	20.35	109.00	74.08	62.84	152.21
1	7	-5	87.37	17.63	106.48	74.67	59.10	148.55
1	8	-5	87.67	15.54	104.53	75.26	55.63	145.15
1	9	-5	87.91	13.89	102.99	75.86	52.42	142.00
					2 0 -11 -- 0 1 0			
2	1	-11	83.26	78.40	158.13	72.61	87.77	173.96
2	2	-11	83.64	67.69	151.22	72.65	85.54	172.84
					1 0 -6 -- 0 1 0			
2	1	-12	84.77	79.32	159.91	73.06	87.95	174.45
1	1	-6	85.02	69.33	153.41	73.10	85.90	173.42
1	2	-6	85.75	52.96	139.72	73.23	81.85	170.36
1	3	-6	86.48	41.46	129.26	73.44	77.87	166.83
1	4	-6	87.06	33.53	121.86	73.73	74.01	163.22
1	5	-6	87.51	27.93	116.59	74.07	70.29	159.66
1	6	-6	87.85	23.83	112.72	74.47	66.74	156.21
1	7	-6	88.12	20.74	109.78	74.89	63.37	152.91
1	8	-6	88.33	18.33	107.49	75.35	60.18	149.78
					1 0 -7 -- 0 1 0			
1	1	-7	87.28	72.03	156.96	73.80	86.47	174.33
1	2	-7	87.60	57.03	144.25	73.90	82.97	171.70
1	3	-7	87.95	45.78	133.90	74.05	79.52	168.63
1	4	-7	88.25	37.62	126.20	74.26	76.15	165.47
1	5	-7	88.50	31.66	120.51	74.51	72.87	162.32
1	6	-7	88.69	27.19	116.24	74.81	69.71	159.25
1	7	-7	88.85	23.77	112.95	75.13	66.66	156.27

TABLE VIII CONTINUED

MILLER INDICES H	K	L	ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES) 1 0 0	0 1 0	0 0 1	ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES) 1 0 0	0 1 0	0 0 1
					1 0 -8 -- 0 1 0			
1	1	-8	89.03	74.14	159.72	74.34	86.90	175.03
1	2	-8	89.12	60.39	147.97	74.41	83.83	172.71
1	3	-8	89.23	49.55	137.91	74.53	80.79	170.00
1	4	-8	89.33	41.34	130.10	74.68	77.79	167.20
1	5	-8	89.42	35.14	124.14	74.87	74.87	164.39
1	6	-8	89.49	30.39	119.56	75.10	72.02	161.62
					1 0 -9 -- 0 1 0			
1	1	-9	90.42	75.82	161.91	74.76	87.24	175.57
1	2	-9	90.38	63.20	151.05	74.82	84.50	173.50
1	3	-9	90.34	52.84	141.39	74.90	81.78	171.08
1	4	-9	90.30	44.70	133.60	75.03	79.09	168.56
1	5	-9	90.27	38.37	127.49	75.18	76.46	166.03
					1 0 -10 -- 0 1 0			
1	1	-10	91.54	77.20	163.68	75.10	87.51	176.01
1	2	-10	91.44	65.56	153.63	75.14	85.04	174.14
1	3	-10	91.31	55.71	144.41	75.21	82.58	171.95
1	4	-10	91.17	47.73	136.74	75.31	80.15	169.67
					1 0 -11 -- 0 1 0			
1	1	-11	92.47	78.33	165.14	75.38	87.74	176.37
1	2	-11	92.33	67.56	155.81	75.41	85.48	174.66
1	3	-11	92.14	58.22	147.04	75.47	83.24	172.67
					1 0 -12 -- 0 1 0			
1	1	-12	93.25	79.29	166.37	75.61	87.92	176.67
1	2	-12	93.09	69.28	157.68	75.64	85.85	175.10
					1 0 -13 -- 0 1 0			
1	1	-13	93.91	80.10	167.41	75.81	88.08	176.92
					0 0 -1 -- 0 1 0			
0	1	-14	101.64	80.97	170.97	78.22	88.20	178.20
0	1	-13	101.62	80.29	170.29	78.22	88.06	178.06
0	1	-12	101.59	79.49	169.49	78.22	87.90	177.90
0	1	-11	101.55	78.56	168.56	78.22	87.71	177.71
0	1	-10	101.50	77.45	167.45	78.22	87.48	177.48
0	1	-9	101.44	76.11	166.11	78.22	87.20	177.20
0	1	-8	101.35	74.45	164.45	78.23	86.85	176.85
0	1	-7	101.23	72.36	162.36	78.23	86.40	176.40
0	2	-13	101.15	71.10	161.10	78.24	86.13	176.13
0	1	-6	101.04	69.65	159.65	78.24	85.81	175.81
0	2	-11	100.92	67.97	157.97	78.25	85.43	175.43
0	1	-5	100.76	66.01	156.01	78.26	84.97	174.97
0	2	-9	100.55	63.68	153.68	78.27	84.42	174.42
0	1	-4	100.29	60.91	150.91	78.28	83.72	173.72
0	3	-11	100.06	58.74	148.74	78.30	83.16	173.16

TABLE VIII CONTINUED

MILLER INDICES			ANGLE BETWEEN PLANE AND PRINCIPAL PLANE (DEGREES)			ANGLE BETWEEN DIRECTION AND PRINCIPAL DIRECTION (DEGREES)		
H	K	L	1 0 0	0 1 0	0 0 1	1 0 0	0 1 0	0 0 1
0	2	-7	99.93	57.55	147.55	78.30	82.84	172.84
0	3	-10	99.78	56.27	146.27	78.31	82.48	172.48
0	1	-3	99.44	53.43	143.43	78.34	81.66	171.66
0	4	-11	99.14	51.02	141.02	78.36	80.91	170.91
0	3	-8	99.03	50.15	140.15	78.37	80.63	170.63
0	2	-5	98.78	48.32	138.32	78.39	80.02	170.02
0	3	-7	98.50	46.35	136.35	78.42	79.32	169.32
0	4	-9	98.35	45.31	135.31	78.43	78.94	168.94
0	1	-2	97.85	41.94	131.94	78.49	77.60	167.60
0	5	-9	97.38	38.97	128.97	78.55	76.27	166.27
0	4	-7	97.26	38.18	128.18	78.57	75.89	165.89
0	3	-5	97.04	36.83	126.83	78.61	75.22	165.22
0	5	-8	96.85	35.71	125.71	78.64	74.63	164.63
0	2	-3	96.56	33.98	123.98	78.69	73.66	163.66
0	5	-7	96.25	32.17	122.17	78.76	72.56	162.56
0	3	-4	96.03	30.93	120.93	78.81	71.74	161.74
0	4	-5	95.74	29.32	119.32	78.89	70.61	160.61
0	5	-6	95.56	28.33	118.33	78.94	69.87	159.87
0	6	-7	95.44	27.66	117.66	78.98	69.34	159.34
0	7	-8	95.36	27.18	117.18	79.01	68.95	158.95
0	1	-1	94.80	24.20	114.20	79.22	66.26	156.26
0	8	-7	94.29	21.46	111.46	79.48	63.31	153.31
0	7	-6	94.21	21.06	111.06	79.53	62.84	152.84
0	6	-5	94.11	20.53	110.53	79.59	62.17	152.17
0	5	-4	93.96	19.77	109.77	79.69	61.20	151.20
0	4	-3	93.74	18.62	108.62	79.85	59.61	149.61
0	7	-5	93.58	17.79	107.79	79.98	58.38	148.38
0	3	-2	93.36	16.68	106.68	80.18	56.58	146.58
0	8	-5	93.17	15.69	105.69	80.38	54.86	144.86
0	5	-3	93.05	15.09	105.09	80.51	53.76	143.76
0	7	-4	92.91	14.40	104.40	80.68	52.41	142.41
0	9	-5	92.84	14.02	104.02	80.78	51.63	141.63
0	2	-1	92.57	12.66	102.66	81.18	48.66	138.66
0	9	-4	92.29	11.29	101.29	81.65	45.30	135.30
0	7	-3	92.21	10.90	100.90	81.80	44.26	134.26
0	5	-2	92.07	10.19	100.19	82.10	42.28	132.28
0	8	-3	91.95	9.56	99.56	82.38	40.45	130.45
0	11	-4	91.89	9.28	99.28	82.52	39.58	129.58
0	3	-1	91.73	8.52	98.52	82.91	37.16	127.16
0	10	-3	91.56	7.68	97.68	83.39	34.30	124.30
0	7	-2	91.49	7.32	97.32	83.61	33.01	123.01
0	11	-3	91.42	6.99	96.99	83.82	31.80	121.80
0	4	-1	91.31	6.41	96.41	84.21	29.61	119.61
0	9	-2	91.16	5.70	95.70	84.71	26.80	116.80
0	5	-1	91.05	5.14	95.14	85.15	24.45	114.45
0	11	-2	90.95	4.67	94.67	85.52	22.46	112.46
0	6	-1	90.87	4.28	94.28	85.85	20.75	110.75
0	13	-2	90.81	3.95	93.95	86.13	19.28	109.28
0	7	-1	90.75	3.67	93.67	86.38	17.99	107.99
0	8	-1	90.66	3.21	93.21	86.80	15.86	105.86
0	9	-1	90.58	2.86	92.86	87.13	14.18	104.18
0	10	-1	90.53	2.57	92.57	87.40	12.81	102.81
0	11	-1	90.48	2.34	92.34	87.63	11.68	101.68
0	12	-1	90.44	2.14	92.14	87.82	10.73	100.73
0	13	-1	90.40	1.98	91.98	87.98	9.92	99.92
0	14	-1	90.38	1.84	91.84	88.12	9.22	99.22

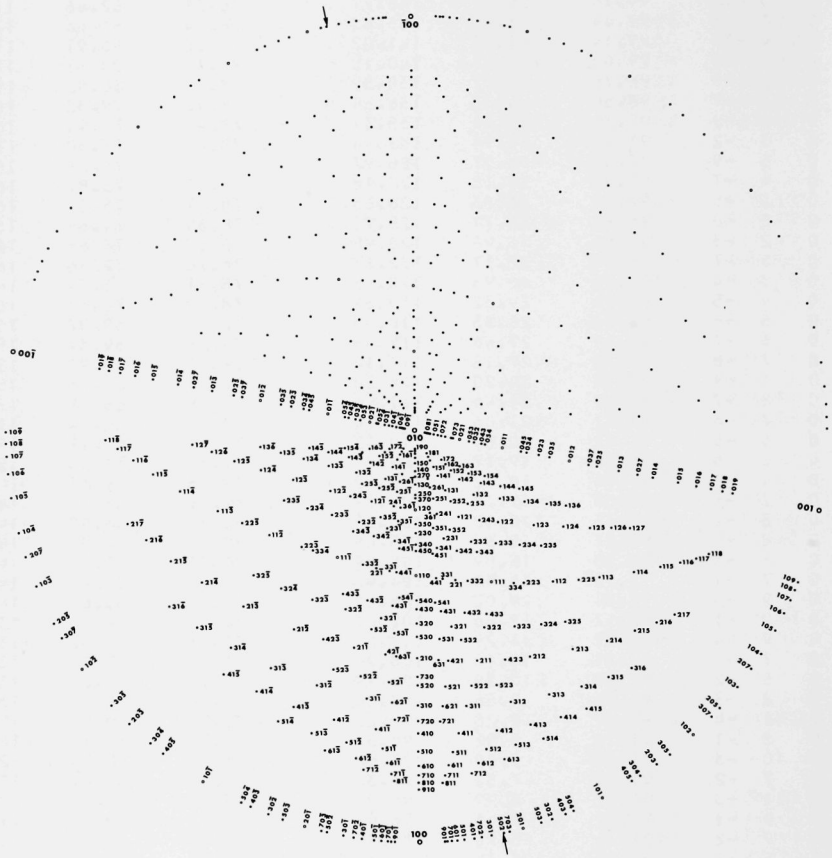

Figure 2. Alpha Plutonium, (010) Standard Projection of Plane Poles

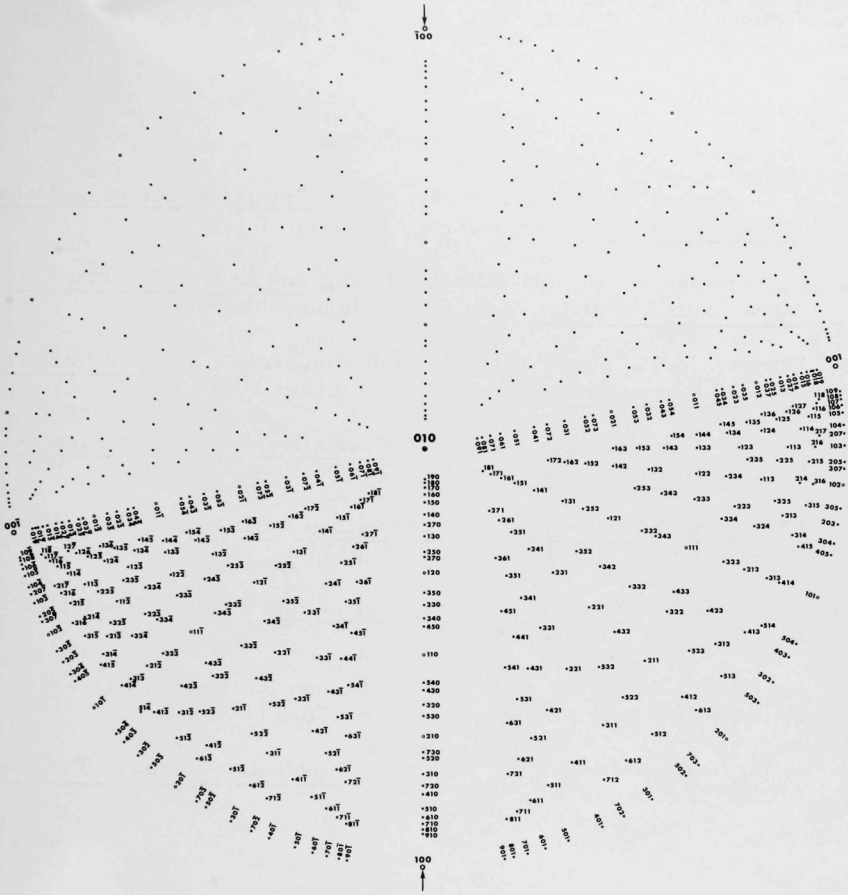

Figure 3. Alpha Plutonium, [010] Standard Projection of Directions

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