

Femto-second Lasers Enabling New Length Scale Fabrications for Rapid Post Irradiation Examination of Materials: Concluding LDRD Project Poster

September 2024

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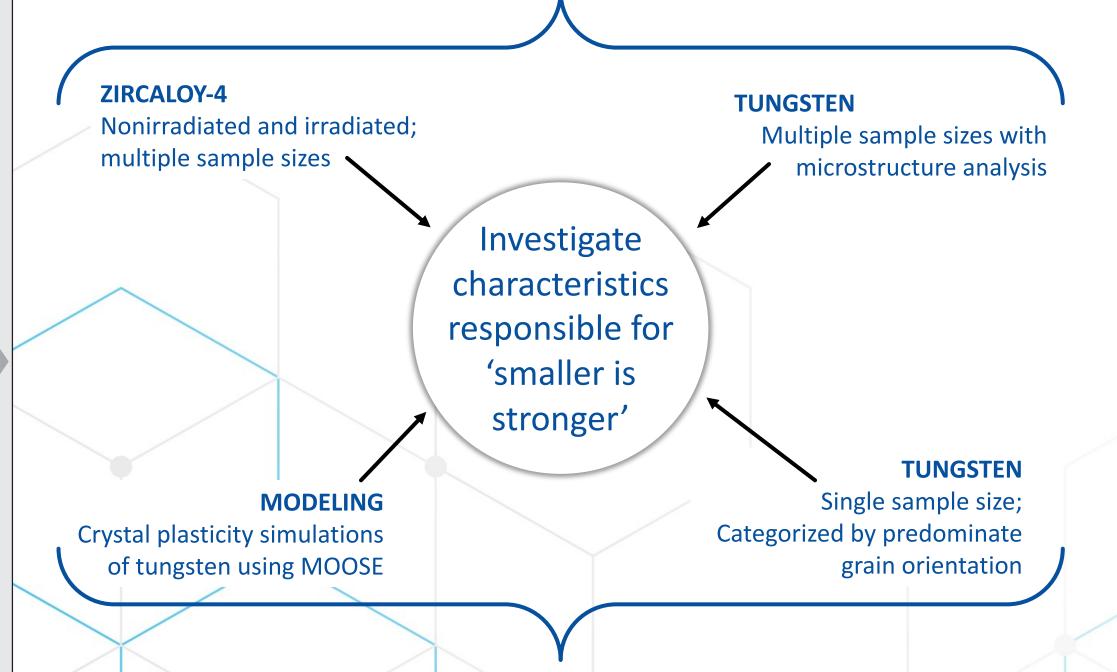
Background Gauge Width: $80\mu m$ Large Sample ASTM Standard Sample

Represent bulk material performance

Reduce costs and radiation dose

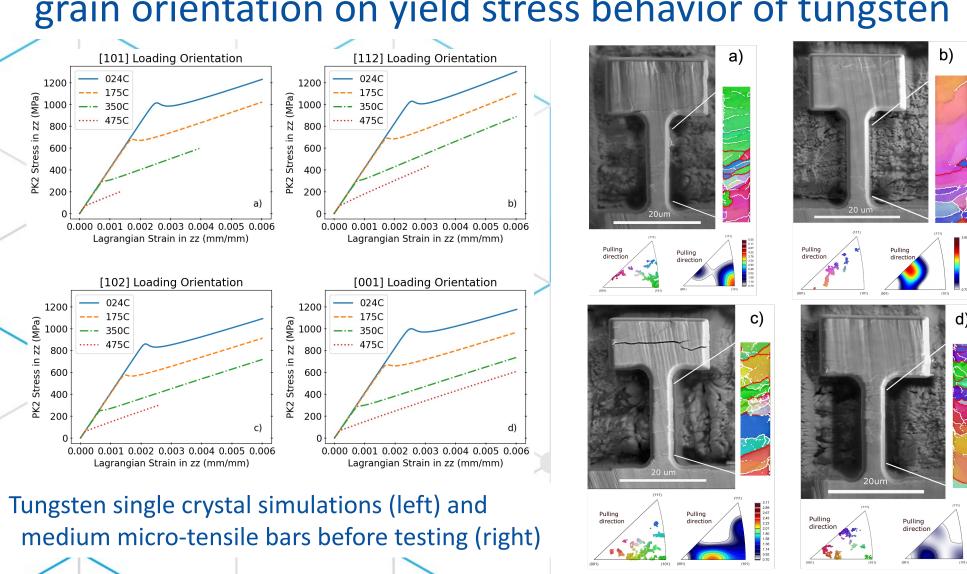
Methods

ROOM TEMPERATURE TESTING

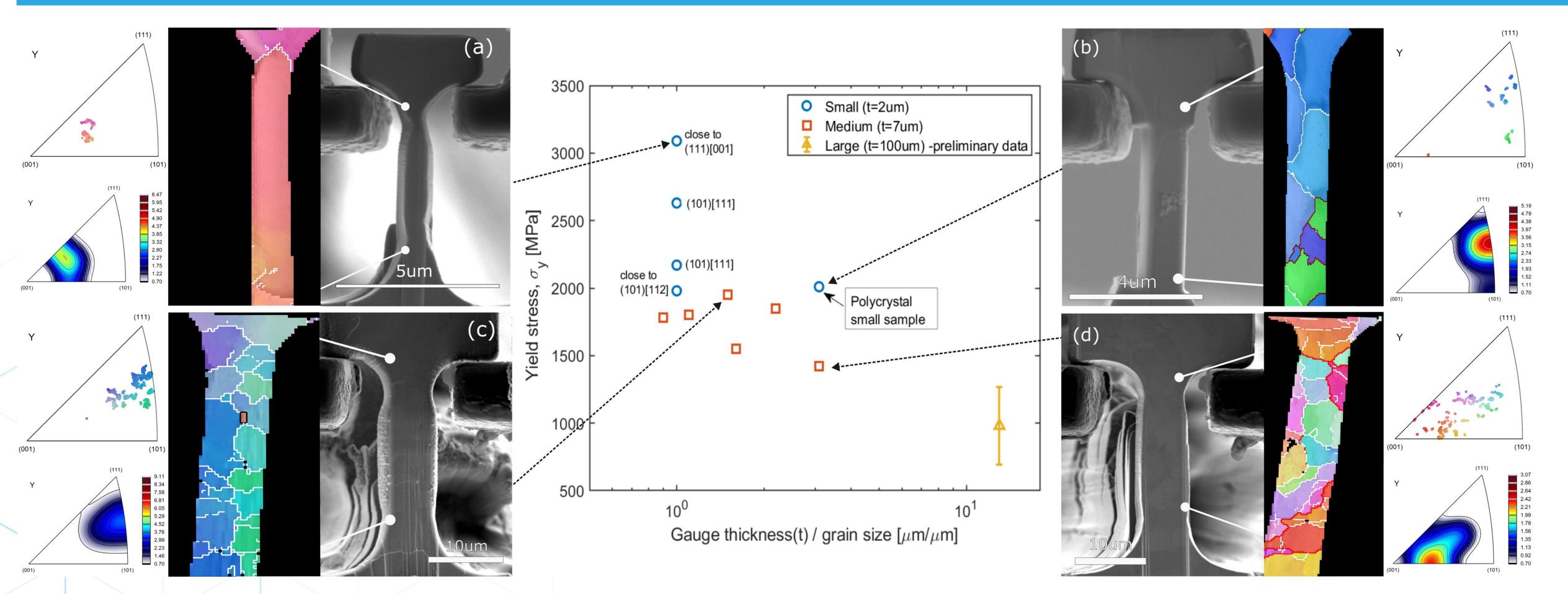


TESTING AT ELEVATED TEMPERATURES

Examine the impact of temperature and predominate grain orientation on yield stress behavior of tungsten



Grain characteristics and sample size govern yield stress behavior in micro-tensile tests.



Results for the yield stress values of tungsten micro-tensile specimens from three sample gauge sizes show a dependence on both sample and grain size. The small samples include both single crystals (a) and a polycrystal(b). The medium samples are all polycrystalline (c and d).

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