



Simon Bonk simon.bonk@kit.edu

Karlsruhe Institute of Technology Institute for Applied Materials

- Applied Materials Physics (IAM-AWP)

Ductilisation of tungsten (W) through cold-rolling: correlation of microstructure and mechanical properties

Simon Bonk¹, Jan Hoffmann¹, Andreas Hoffmann², Jens Reiser¹

- 1: KIT
- 2: PLANSEE SE

PROJECT MOTIVATION INTRODUCTION fabrication of W-foils with microstructural evolution The aim of this project is to investigate cold-rolled, ultrafine-grained (UFG) tungsten, a material interesting for WHY ARE TUNGSTEN FOILS DUCTILE future high-temperature applications. testing microstructure The focus is set on the analysis and correlation of the application in working tungsten microstructure and mechanical properties to illuminate the hypothesis Tensile Tests SEM laminates: foil: mechanisms responsible for plastic deformation. **EBSD** Tests are performed at different microstructures and **SRJ Tests** temperatures between 20 °C and 800 °C, showing an verification by electron microscopy evolution of deformation mechanisms TEM / High Resolution EBSD





