Karlsruhe Institute of Technology

CCFE CULHAM CENTRE FOR FUSION ENERGY

EFDA EUROPEAN FUSION DEVELOPMENT AGREEMENT

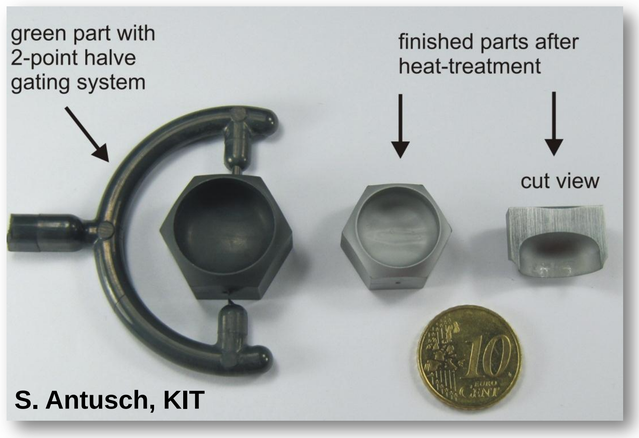
Review on the EFDA Programme on Tungsten Materials

M. Rieth, S.L. Dudarev, S.M. Gonzalez de Vicente, and the contributors to the Topical Group MAT-WWALLOY

FABRICATION

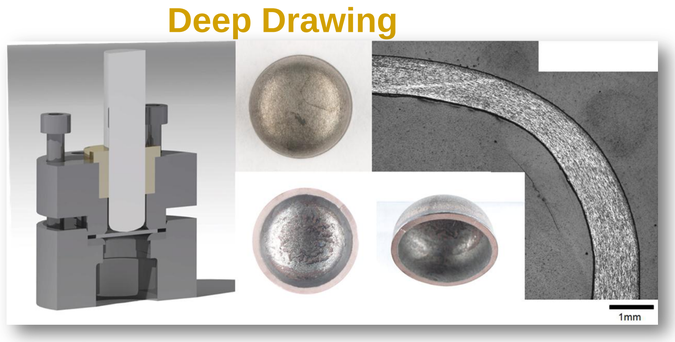
Fabrication Process Development

Powder Injection Molding



S. Antusch, KIT

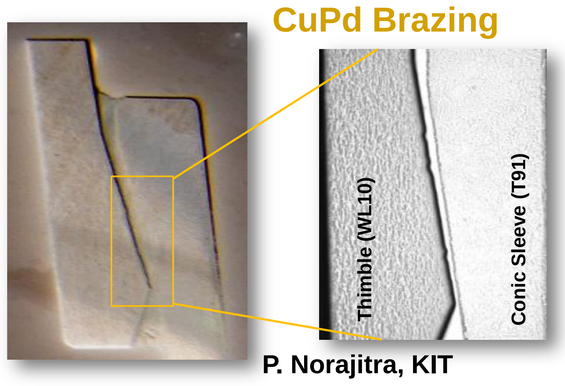
Deep Drawing



J. Reiser, S. Baumgärtner, KIT

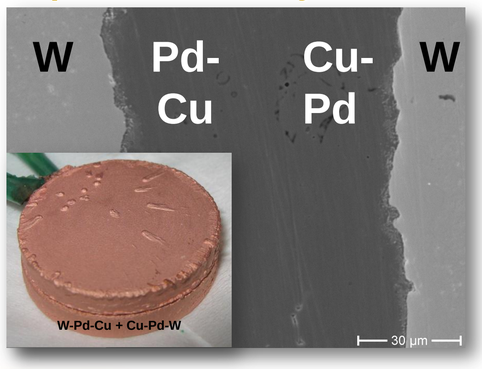
Joining W→Steel

CuPd Brazing



P. Norajitra, KIT

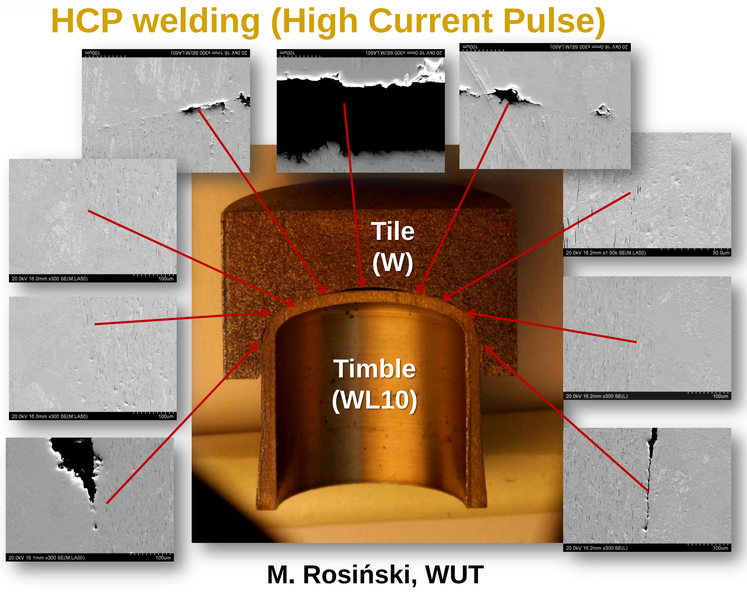
Brazing Layer Deposition from Aqueous Electrolytes



N. Holstein, W. Krauss, KIT

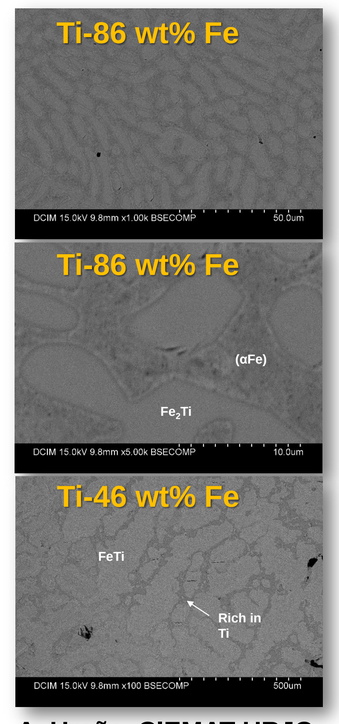
Joining W→W

HCP welding (High Current Pulse)



M. Rosiński, WUT

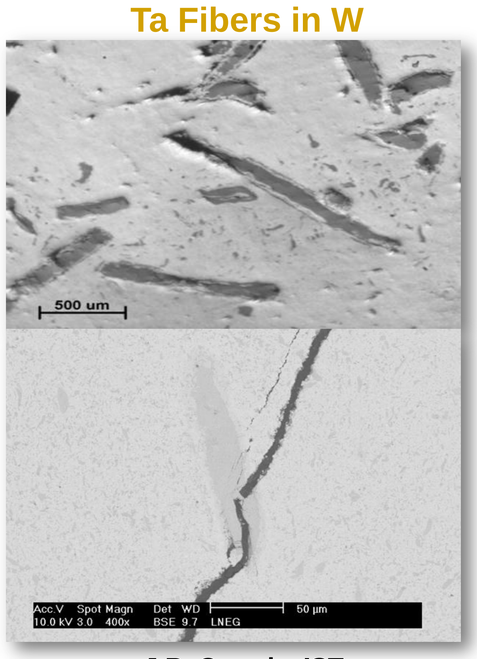
Vacuum Brazing



A. Ureña, CIEMAT-URJC

STRUCTURAL W MATERIALS

Ta Fibers in W



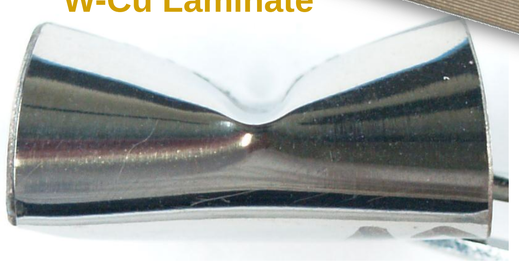
J.B. Correia, IST

PROTECTION W MATERIALS

Divertor Shield

Improving Ductility

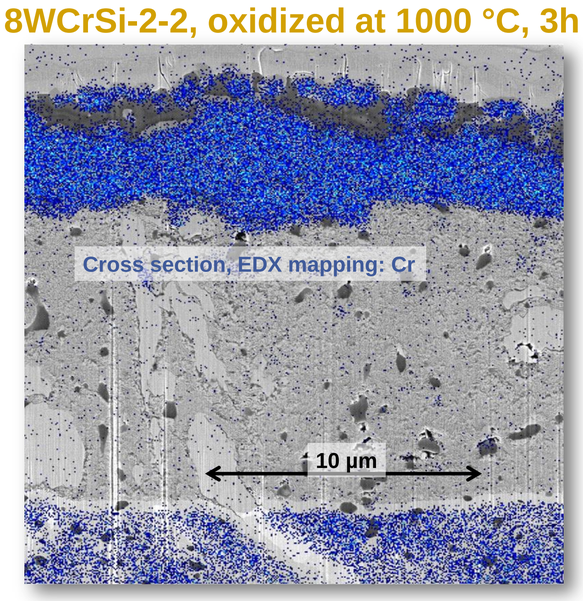
W-Cu Laminate



J. Reiser, KIT

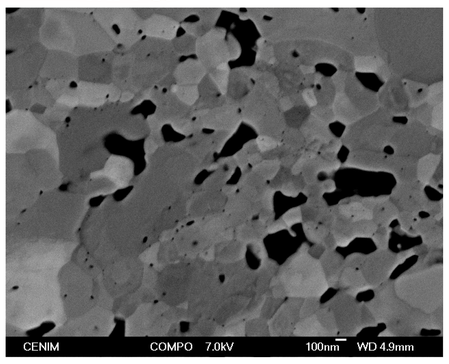
First Wall Shield

8WCrSi-2-2, oxidized at 1000 °C, 3h



J. Brinkmann, F. Koch, S. Lindig,
Ch. Linsmeier, IPP, U. Auzmendi, CETI

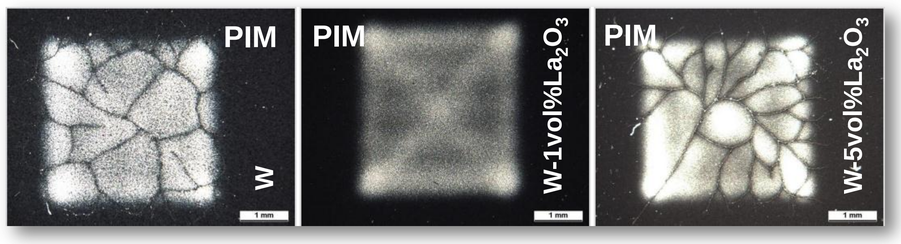
MA & HIP: W-2V



A. Muñoz, T. Palacios, Universidad Carlos III de Madrid

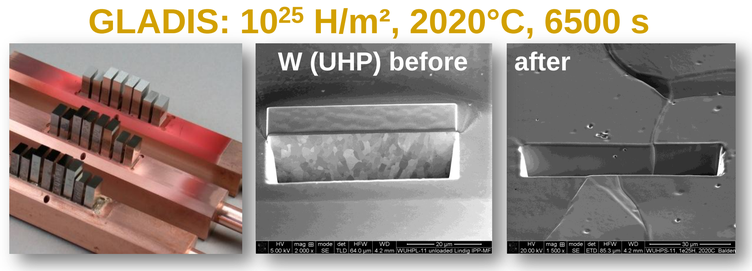
Heat Flux, Shock & HT Testing

JUDITH: 100 Shots at RT with 0.4 GW/m²



G. Pintsuk, FZJ, J. Opschoor, NRG

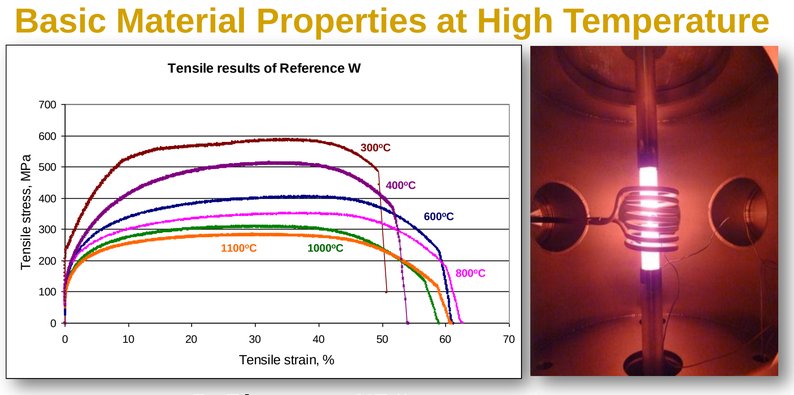
GLADIS: 10^{25} H/m², 2020°C, 6500 s



H. Greuner, H. Maier, Ch. Linsmeier, M. Balden, IPP

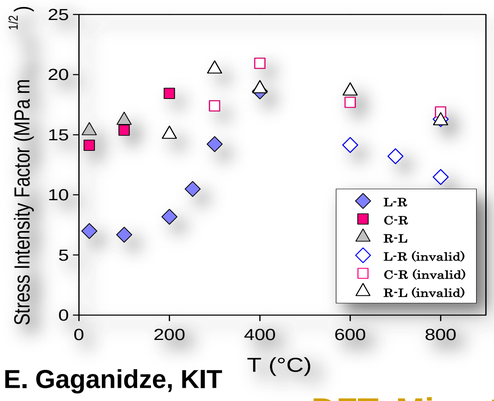
Characterisation & Database

Basic Material Properties at High Temperature



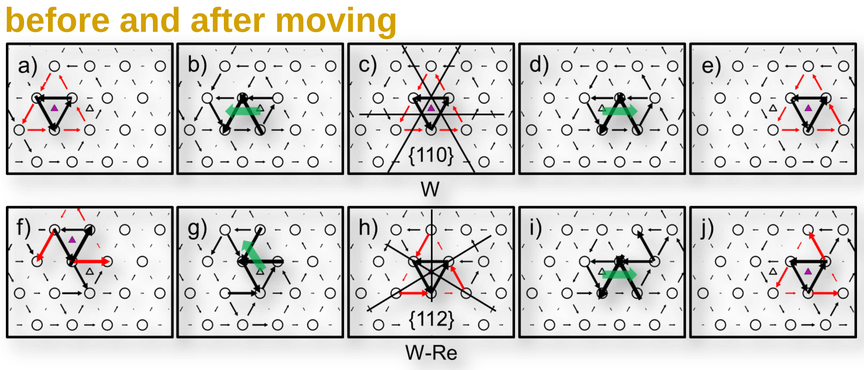
D. Blagoeva, NRG

Fracture Mechanics



E. Gaganidze, KIT

Dislocation-core structures with external strain before and after moving

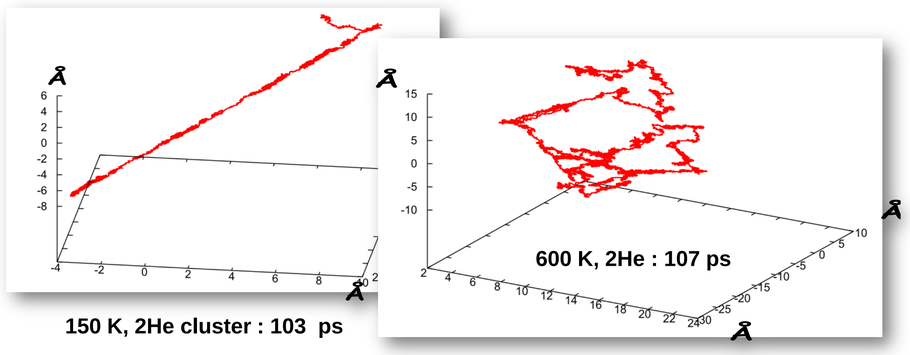


H. Li, R. Pippan, Erich Schmid Institute of Materials Science

MATERIALS SCIENCE AND MODELLING

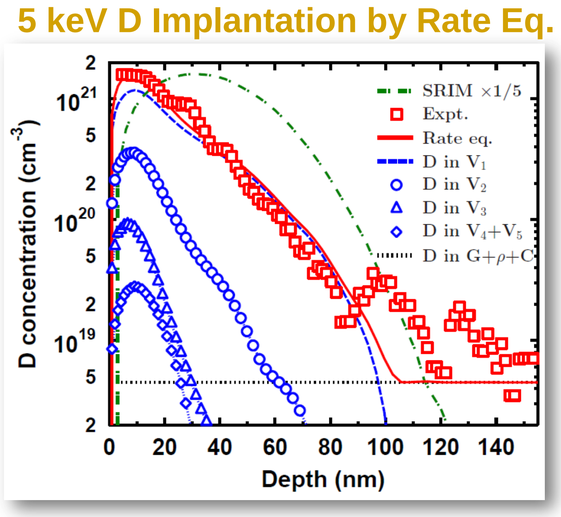
Theory, Simulation, Validation, Plasticity Studies

DFT: Migration of Small He Clusters



C.S. Becquart, A. De Backer, UMET, M.F. Barthe, CEMHTI,
C.J. Ortiz, CIEMAT, C. Domain, EDF

5 keV D Implantation by Rate Eq.



K. Heinola, T. Ahlgren, K. Nordlund, TEKES