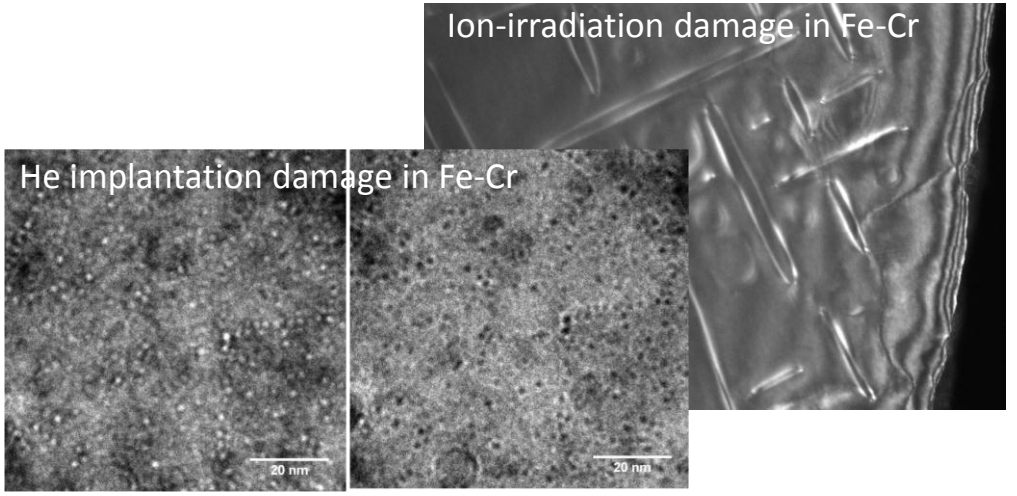
Relevant UKERC Projects: WP1 'Current steels' Fe-Cr M/F and Austenitic

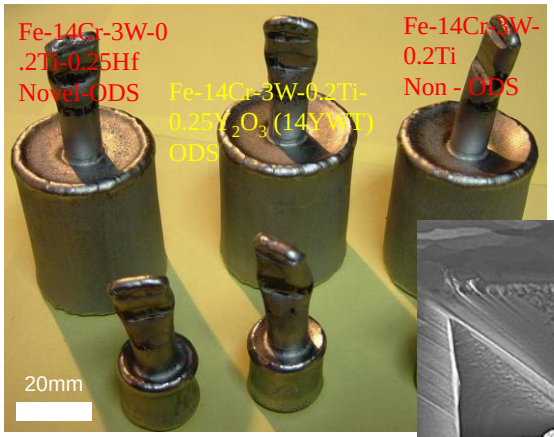
- Materials for Fission and Fusion Power
  - S.G. Roberts (Oxford)
  - EPSRC funded until mid 2015
    - Modelling of dislocation/radiation damage interactions leading strain localisation (modelling methods are dislocation dynamics, crystal plasticity finite element)
    - TEM of deformation structures in radiation damaged bcc materials especially ferrous alloys, ODS ferrous alloys, W alloys,
    - Micro-mechanical studies of deformation of irradiated materials; characterisation of slip bands
    - The irradiation conditions are self ion (Fe, W) irradiations (with the possibility of examining neutron irradiated samples in the next 2-3 years at new National Nuclear User Facility)
- Platform Grant: Characterisation of Nanomaterials for Energy
  - S.G. Roberts and T.J. Marrow (Oxford)
  - EPSRC funded until ~2018
    - Flexible baseline funding for post doctoral research staff & technical support in a world-leading characterisation group
    - Includes "Radiation damage in materials for fission & fusion power"
- Development of Long Timescale Radiation induced Segregation and He Bubble Formation/Migration in Austentitic Steels
  - S Kenny (Loughborough)
  - EPSRC funded until ~ 2015
- High Temperature Responses in Steels
  - D Smith (Bristol)
  - EPSRC funded until 2015
- Effects of In-Beam Ion Irradiation on Creep/Fatigue Properties of Structural Nuclear Materials
  - B Connolly (Birmingham)
  - UoB funded until 2016
    - Flexible baseline funding for post doctoral research staff & technical support in the area of in-beam (light ion irradiation / helium implantation) mechanical testing

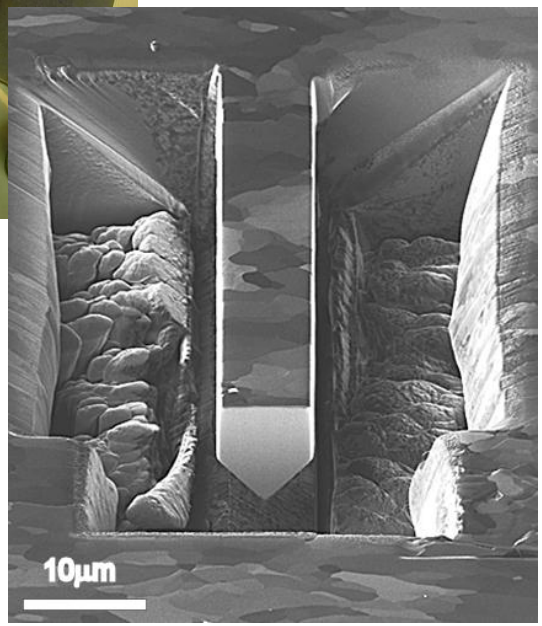


Strong links for fusion research and new National Nuclear User Facility (Culham site)

Relevant UKERC Projects: WP2 ODS steels

- Materials for Fission and Fusion Power
  - S.G. Roberts
  - EPSRC funded until mid 2015
    - Modelling of dislocation/radiation damage interactions leading strain localisation (modelling methods are dislocation dynamics, crystal plasticity finite element)
    - TEM of deformation structures in radiation damaged bcc materials especially ferrous alloys, ODS ferrous alloys, W alloys,
    - Micro-mechanical studies of deformation of irradiated materials; characterisation of slip bands
    - The irradiation conditions are self ion (Fe, W) irradiations (with the possibility of examining neutron irradiated samples in the next 2-3 years at new National Nuclear User Facility)
- Irradiation Creep Modeling in ODS Steels
  - D. Dye (Imperial)
  - EPSRC funded until 2015
    - Includes modeling and experiments for radiation damage in materials for fission power
- Modeling the Role of Oxide Nanoparticles in ODS Steels on the Evolution of Radiation Damage and the Formation and migration of Bubbles
  - S. Kenny (Loughborough)
  - EPSRC funded until 2014



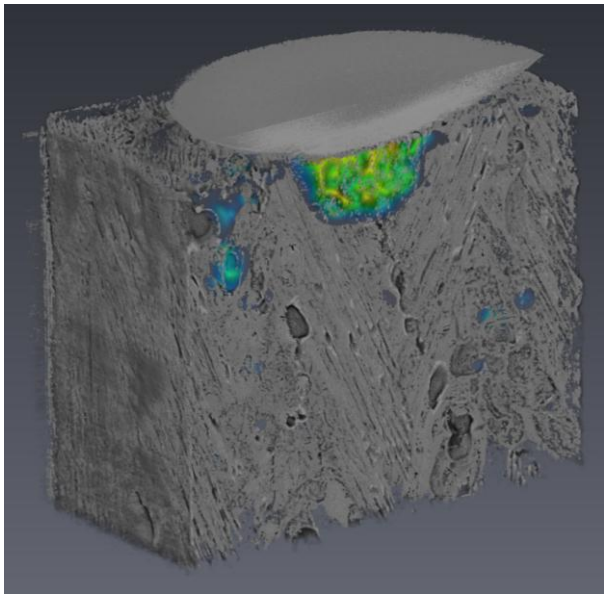


Strong links for fusion research and new National Nuclear User Facility (Culham site)

Linked to capability on fabrication of ODS steels

Relevant UKERC Projects: WP2 SiC/SiC – 'Ceramics and Refractory Alloys'

- Quasi-Brittle Materials
  - T.J. Marrow (Oxford)
  - EPSRC funded until late 2015
    - 3D characterisation and modelling of damage in brittle/quasi-brittle materials including SiC-SiC composites
    - Computed tomography, CAFE modelling
    - In-situ testing
- Effects of In-Beam Ion Irradiation on Creep/Fatigue Properties of Structural Nuclear Materials
  - B Connolly (Birmingham)
  - UoB funded until 2016
    - Flexible baseline funding for post doctoral research staff & technical support in the area of in-beam (light ion irradiation / helium implantation) mechanical testing
- Platform Grant: Characterisation of Nanomaterials for Energy
  - S.G. Roberts and T.J. Marrow (Oxford)
  - EPSRC funded until ~2018
    - Flexible baseline funding for post doctoral research staff & technical support in a world-leading characterisation group
    - Includes "Radiation damage in materials for fission & fusion power"



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Established links to Diamond Light Source and ISIS Neutron Source