

MINOS 2nd International Workshop, Irradiation of Nuclear Materials

Flux and Dose Effects

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2nd MINOS workshop: program

Wednesday, November 4, 2015

- 8:15 • Registration
- 9:00 • Welcome, **C. Gallé (MINOS)**, CEA Saclay (France)
- 9:05 • Opening Talk, **J.-P. Bouyer (DEN/DANS/Dir)**, CEA Saclay (France)

SESSION 1: IRRADIATION TOOLS AND FACILITIES, NOV. 4TH, (a.m.)

Chairman: **R. P. Webb**, University of Surrey (UK) – Co-Chairman: **J.-L. Béchade**, CEA Saclay (France)

- 9:20 • **EMIR Federation: Network of Accelerators Dedicated to Material Irradiation**, **S. Bouffard et al.**, CEA Saclay (France)
- 10:00 • Surrey Ion Beam Centre: the EPSRC “MRF” for Ion Beam Applications, **R. P. Webb**, University of Surrey (Surrey, UK)
- 10:25 • The Jules Horowitz Reactor Research Project : a New High Performance Material Testing Reactor Working as an International User Facility – First Developments to Address R&D on Material, **G. Bignan et al.**, CEA Cadarache (France)
- 10:50 Coffee Break
- 11:15 • The Characteristics and Irradiation Capabilities of MARIA Research Reactor in NCBJ Świerk, **G. Krzysztoszek**, NCBJ (Świerk, Poland)
- 11:40 • Plasma Material Interaction in Tokamak: the Contribution of WEST and of Laboratory studies, **C. Grisolia et al.**, CEA Cadarache (France)
- 12:05 • Discussion
- 12:35 Lunch Break

SESSION 2: PRIMARY DAMAGE AND STRUCTURAL DEFECTS, NOV. 4TH, (p.m.)

Chairman: **F. Gao**, University of Michigan (USA) – Co-Chairman: **J.-P. Crocombette**, CEA Saclay (France)

- 14:00 • **Modeling and Simulation of Primary Damage and Structure Evolution in Ceramics and Metals**, **F. Gao**, University of Michigan (Ann Arbor, USA)
- 14:40 • DART, a BCA Code to Assess and Compare Primary Irradiation Damage in Nuclear Materials Submitted to Neutron and Ion Flux, **L. Lunéville et al.**, CEA Saclay (France)
- 15:05 • Polymers under Ionizing Radiations: the Specificity of Swift Heavy Ions, **Y. Ngonon-Ravache et al.**, CEA Saclay (France)
- 15:30 Coffee Break
- 15:55 • Structure of Defects and Microstructure Evolution in Oxide Ceramics – Role of Electronic Excitation and Selective Displacement Damage, **K. Yasuda**, Kyushu University (Fukuoka, Japan)
- 16:20 • Irradiation Induced Phenomena in Nuclear Glass, **J.-M. Delaye et al.**, CEA Marcoule (France)
- 16:45 • Simulation of C-Component Dislocation Loops by Ions and Protons Irradiation. A Tool to Understand the Breakaway Growth of Recrystallized Zr-Based Alloys, **J.-P. Mardon et al.**, AREVA NP (Lyon, France)
- 17:10 Discussion
- 17:40 End of the First Day

18:30 Welcome Cocktail (CEA Cadarache guest house, 18h30 – 20h30)

2nd MINOS workshop program (continued)

Thursday, November 5, 2015

SESSION 3: EVOLUTION & CHARACTERIZATION OF THE MICROSTRUCTURE, NOV. 5TH, (a.m.)

Chairman: M. J. Caturla, University of Alicante (Spain) – Co-Chairman: G. Jomard, CEA Cadarache (France)

- 9:00 • **Microstructure Evolution in Fe and Fe-Cr Alloys with OKMC Methods, M. J. Caturla et al., University of Alicante (Alicante, Spain)** ***
- 9:40 • Atomistic Modeling of Segregation and Precipitation in Fe-Cr Alloys under Irradiation, **F. Soisson et al.**, CEA Saclay (France) ***
- 10:05 • Study of Rare Gases Behavior in Uranium Dioxide, **G. Carlot et al.**, CEA Cadarache (France) ***
- 10:30 Coffee Break
- 10:55 • Positron Annihilation Spectroscopy to Characterize Irradiation Induced Vacancy Type Defects in Materials for Nuclear Fission & Fusion, **M-F. Barthe**, CNRS-CEMHTI (Orléans, France) ***
- 11:20 • α Self-Irradiation Effects on Structural Properties of (U,Am) $O_{2\pm\delta}$ Materials, **F. Lebreton et al.**, CEA Marcoule (France) ***
- 11:45 • Discussion
- 12:20 Lunch Break

SESSION 4: IMPACT ON PHYSICAL, CHEMICAL, MECHANICAL CHARACTERISTICS & PROPERTIES, NOV. 5TH, (p.m.)

Chairman: I. M. Robertson, University of Wisconsin-Madison – Co-Chairman: D. Féron, CEA Saclay (France)

- 14:00 • **Dislocation Grain Boundary Interactions in Irradiated Metals, I. M. Robertson et al., University of Wisconsin-Madison (Madison, USA)** ***
- 14:40 • Effects of Clear Bands on Intergranular Stresses and IASCC Early Damage, **M. Sauzay et al.**, CEA Saclay (France) ***
- 15:05 • Evolution under Irradiation of Optimized Austenitic Steel for Gen-IV Reactors, **A. Courcelle et al.**, CEA Saclay (France) ***
- 15:30 • Multiscale Modeling of Radiation Hardening in RPV and Austenitic Stainless steels: from the Atomic to the Continuum Scale, **G. Monnet**, EDF R&D (Moret-sur-Loing, France) ***
- 15:55 Coffee Break
- 16:20 • High Burn-up Structure in Nuclear Fuel: Impact on Fuel Behavior, **J. Noirot et al.**, CEA Cadarache, (France) ***
- 16:45 • Influence of Irradiation on Stainless Steel Corrosion in PWR Primary Conditions, **S. Perrin et al.**, CEA Saclay, (France) ***
- 17:10 • Discussion
- 17:40 Break
- 17:50 • Closing Statements, **F. Carré (DEN/DS)**, CEA Saclay (France)