Agenda for the 17th European Fusion Physics Workshop
Hungary, 7th to 9th December 2009
Use of Tungsten in fusion devices

Monday 7th of December 2009

Start	Finish	Time Allocated	Title of the Presentation	Presenter
08:30	08:45	00:15	Welcome, Introduction (Sandor Zoletnik, Jérôme Paméla)	
Session I: Specifications for tungsten as plasma facing material and as structural material				
08:45	09:00	00:15	Introduction	Volker Philips (FZJ)
09:00	09:30	00:30	W in AUG W with emphasis on W coatings	Hans Maier (IPP)
09:30	10:00	00:30	Use of W in ITER with some emphasis on the operational boundary conditions	Richard Pitts (ITER)
10:00	10:30	00:30	Coffee Break	
10:30	11:00	00:30	JET ILW project with emphaiss on W bulk development	Guy Matthews (CCFE)
11:00	11:30	00:30	W in Demo	Karl Lackner (IPP)
11:30	12:00	00:30	Modelling of plasma-wall interaction in a possible full W Satellite Tokamak	Giorgio Maddaluno (ENEA)
12:00	13:15	01:15	Lunch Break	
13:15	14:00	00:45	Discussion	Volker Philips (FZJ)
Session II: Status of W technologies				
14:00	14:10	00:10	Introduction	Michael Rieth (KIT)
14:10	14:40	00:30	W Production - Industrial Manufacturing and Technological Implications	Reinhard Pippan (OAW)
14:40	15:10	00:30	Experimental and Alternative Production Routes – Powder Metallurgy, Mechanical Alloying, Injection Moulding	Nadine Baluc (CRPP)
15:10	15:30	00:20	ITER Tungsten PFCs – Status of Fabrication Technology and HHF Tests in the EU	Patrick Lorenzetto (F4E)
15:30	16:00	00:30	Coffee Break	
16:00	16:30	00:30	DEMO Divertor Fabrication – Processing, Joining, and Testing Components	Prachai Norajitra (KIT)
16:30	16:50	00:20	Status of W-coating techniques	Cristian Ruset (MEdc)
16:50	17:10	00:20	Alternative Processing Routes - Electro-chemical Processing and Coating Techniques	Wolfgang Krauss (KIT)
17:10	18:00	00:50	Discussion	Michael Rieth (KIT)

Evening Lecture (The wonderful world of strongly coupled plasmas)

Tuesday 8th of December 2009

Start	Finish	Time Allocated	Title of the Presentation	Presenter
Session III:Status on the scientific understanding of W and W-alloys material properties				
08:30	08:40	00:10	Introduction	S. L. Dudarev (CCFE)
08:40	09:10	00:30	Physical and mechanical properties of tungsten	Inge Uytdenhouwen (SCK-CEN)
09:10	09:35	00:25	Experimental fracture tests on single crystal high puritytungsten and related materials/systems	Steve Roberts (University of Oxford)
09:35	10:00	00:25	Overview of recent density functional calculations, including Helium, in tungsten	Charlotte Becquart (University of Lille)
10:00	10:30	00:30	Coffee Break	
10:30	10:50	00:20	Transmutation effects, neutron-induced changes in chemical composition, and helium production in tungsten and tungsten alloys	Mark Gilbert (CCFE)
10:50	11:20	00:30	Overview of principles for alloy design, applied to tungsten alloys	Duc Nguyen-Manh (CCFE)
11:20	12:15	00:55	Discussion	S. L. Dudarev (CCFE)
12:15	13:30	01:15	Lunch Break	
Session IV: W as a plasma facing component (Plasma Surface Interaction issues)				
13:30	13:50	00:20	Introduction	Rudolf Neu (IPP)
13:50	14:15	00:25	High heat flux testing steady state / transients/ W-alloys as PFC	Jochen Linke (FZJ)
14:15	14:30	00:15	Melt layer formation, motion and vapour shielding: Experimental Results	Jan Coenen (FZJ)
14:30	14:45	00:15	Melt layer formation, motion and vapour shielding: Modelling	Boris Bazylev (KIT)
14:45	15:10	00:25	Tritium retention in W	Joachim Roth (IPP)
15:10	15:30	00:20	Change of W morphology under high simultaneous fluxes of D/T, He	Graham Wright (FOM)
15:30	16:00	00:30	Coffee Break	
16:00	16:20	00:20	Mixed materials issues, intrinsic and seeded impurities	Karl Krieger (IPP)
16:20	16:40	00:20	W Erosion and edge transport	Ralf Dux (IPP)
16:40	17:30	00:50	Discussion	Rudolf Neu (IPP)

Workshop Dinner

Wednesday 9th of December 2009

Start	Finish	Time Allocated	Title of the Presentation	Presenter
Session V: Development of integrated tokamak operating scenarios compatible with W PFCs				
08:30	08:45	00:15	Introduction	Emmanuel Joffrin (JET-EFDA)
08:45	09:10	00:25	Compatibility of heating methods with a tungsten wall (NBI shine through, RF sheath, fast ion losses, LH fast electrons)	Marie-Line Mayoral (CCFE)
09:10	09:35	00:25	W and heavy impurity transport and their control in core plasma	Thomas Puetterich (IPP)
09:35	10:00	00:25	Detachment control (through Deuterium and/or impurity seeding) in an metallic wall	Pascale Monier-Garbet (CEA)
10:00	10:30	00:30	Coffee Break	
10:30	10:55	00:25	Experimental strategies for mitigating power loading due to transients events (ELMs, disruptions, loss of (power) detachment)	Thomas Eich (IPP)
10:55	11:20	00:25	Extrapolation of operation of current metallic machines to ITER (protection, operational limits, damage to in-vessel components W, Be, W/CFC, etc…).	Jerome Bucalossi (CEA)
11:20	12:00	00:40	Discussion	Emmanuel Joffrin (JET-EFDA)
12:00	12:15	00:15	Worshop Close	
12:15	13:30	01:15	Lunch Break	