

# Agenda for EUROfusion Joint Modelling Activity of WPJET1/2/WPMST1/WPPFC/WPCD/WPPMI VTT, Helsinki/Tervaniemi, Finland, 31/01-03/02/2017

The objective of this modelling activity meeting is the joint evaluation of current modelling efforts with emphasis on identifying open issues, urgent near- and midterm requirements for EUROfusion research activities and on discussing possible collaborations and proposals for supporting experiments within EUROfusion.

## 1. Tuesday - Plasma boundary and SOL codes

Session organisers: Marco Wischmeier (marco.wischmeier@ipp.mpg.de) &  
Sven Wiesen (s.wiesen@fz-juelich.de)

10:20-10:30	LOC	Welcome
10:30-11:10	Bart Lomanowski	Spectral analysis of detached plasmas in JET and AUG (incl Nitrogen and modelling)
11:10-11:40	Juuso Karhunen	SOL pressure distribution in AUG L-mode plasmas and its impact on nitrogen flow at the high-field side midplane region
11:40-12:00	Mathias Groth	Dalpha simulations in JET-ILW using EDGE2D-EIRENE and standalone EIRENE (internal post-processor)
12:00-14:00		Lunch break
14:00-14:30	Christos Stavrou	EDGE2D-EIRENE simulations of JET Ne and N2 seeded L-mode plasmas in JET
14:30-15:00	Paolo Ricci	ER project report on turbulence modelling
15:00-15:30	Dominik Brida	3D divertor physics (EMC3-EIRENE)
15:30-16:00	Kristel Ghoo	Numerical error estimation in coupled finite volume /Monte Carlo codes
16:00-16:30		Coffee break
16:30-17:30	Tilman Lunt	Advanced configurations modelling? AUG/TCV
17:30-18:30		Discussion on code validation
18:30-20:00		Markus' Skiing-school
20:00		Dinner

## 2. Wednesday - Plasma boundary and SOL codes

Session organisers: Marco Wischmeier (marco.wischmeier@ipp.mpg.de) &  
Sven Wiesen (s.wiesen@fz-juelich.de)

09:00-09:30	David Coster	summarizing recent DEMO studies with SOLPS (incl work of Fabio Subba)
09:30-09:50	Roman Zagorski	On recent TECXY modelling activities
09:50-10:20	Andrea Scarabosio	Validity of the two-point model assumptions in AUG L-mode and H-mode plasmas, inclusion of drifts?
10:20-10:30		Coffee break
10:30-11:00	Mattia Siccino	Simplified 0D models for divertor detachment
11:00-12:00	All	Discussion on the approaches and assumptions used in these studies and proposals for future (DEMO) studies, reduced (multi-point) models
12:00-14:00		Lunch Break

## 3. Wednesday - Plasma-wall interface codes

Session organiser: Andreas Kirschner (a.kirschner@fz-juelich.de)

14:00-14:30	Patrick Tamain	Latest advances in the SOLEDGE2D and TOKAM3X codes
14:30-15:00	Juri Romazanov	ERO2.0 and Be erosion modelling for JET-ILW
15:00-15:30	Michael Komm	Particle-in-cell simulations of plasma interaction with PFCs including thermionic emission
15:30-16:00	Karl Krieger	Status of WallDyn modelling (incl. ELMs)
16:00-16:30		Coffee break
16:30-17:00	Julien Denis	Model for wall recycling coefficient and application to a WEST test case
17:00-18:00	All	Discussion
19:00-22:00		Cross-country skiing, Sauna & ice-water swimming & snacks

#### 4. Thursday - Codes for processes in Plasma Facing Materials

Session organiser: Antti Hakola (antti.hakola@vtt.fi)

09:00-09:25	Elnaz Safi	Multi-scale modelling to relate beryllium surface temperature, deuterium concentration and molecular sputtering yield
09:25-09:50	Kai Nordlund	MD and KMC simulations of the temperature dependence of W fuzz formation
09:50-10:20	Ivan Sukuba/Lei Chen	Development of ANN potentials and producing data for modelling of PWI
10:20-10:45		Coffee break
10:45-11:15	Etienne Hodille	DFT and thermodynamic modelling of H and W : flux dependent creation of defects in the bulk & molecular hydrogen recombination at the surface
11:15-11:45	Udo von Toussaint	Effect of surface roughness as well as Uncertainty Quantification
11:45-12:30	All	Discussion
12:30-14:30		Lunch Break

#### 5. Thursday - Codes for thermomechanical response of PFMs and for dust dynamics

Session organiser: Karl Krieger (karl.krieger@ipp.mpg.de)

14:30-15:00	Bernhard Sieglin	Heat flux evaluation on plasma facing components in fusion experiments
15:00-15:30	Dirk Nille	THEODOR in a Bayesian Framework: a probabilistic evaluation of heat flux density profiles
15:30-16:00	Karl Krieger? (D. Iglesias)	Accurate calculation of the parallel heat flux for divertor thin tiles: Application to JET and ASDEX-U melting experiments
16:00-16:30		Coffee break
16:30-17:00	Karl Krieger? (D. Iglesias)	Update on 3D IR analysis
17:00-18:00	All	Discussion IR analysis
19:30		Dinner

## 6. Friday - Discussion of upcoming experiments and codes - diagnostics requirements for modelling, code development requirements

Session organiser: tbd

09:00-09:40	All	Summary "Plasma Boundary & Wall Interface Modelling"
09:40-10:20	All	Summary "Modelling of Materials Processes"
10:20-10:30		(short) Coffee break
10:30-12:00	All	General Discussion
12:00-13:30		Lunch
13:30		Departure to Helsinki Airport (arrival at HEL approx. 14:45)