

PSD Management Meeting

# Briefing

**M. Wischmeier**

Plasma Science for ITER, DEMO and stellarators department → PSD  
19<sup>th</sup> of December 2024





## ITER → tbc with new PM

- Internally started the drafting of a MOU for Collaboration in Fusion Research and Development for mutual benefit and reciprocity --> PLs/TFLs to propose possible headlines/ideas/thoughts to PSD PMU by mid January
- Aiming at visiting ITER in February for a first discussion on topics and projects to initiate iteration
- PLs/TFLs to provide PSD PMU with list of modelling projects for ITER accepted for 2025 by mid January



## TE Enhancements

- PSD/PMU prepared a questionnaire for a survey every 4 months regarding the status of the TE enhancement projects with the aim to follow the overall progress, monitor risks in human resources availability and costs with impact on depreciation
- A proposal to derive a document defining the physics gaps towards a Stellarator Reactor by the end of 2025 has been drafted --> PSD is proposing to the PB the allocation of participation resources as discussed at the AWP2025 meeting



## QST – JT-60SA

- QST desires a change to a metal wall before the start of ITER operation to support ITER/DEMO
- JT-60SA PL to propose operative / exploitation structure for upcoming campaigns – re-starting discussion with Sam Davies



# Stellarator “DEMO” physics gaps document

Topics to be addressed and experts to contribute identified and awaiting their confirmation to participate (ongoing)

- (MJ) Heat and particle exhaust in the island divertor,
  - (AA) MHD equilibrium and stability
  - (IC) Core transport and confinement
  - (IC) Fast particle confinement and interaction with Alfvén waves
  - (MJ) Plasma-wall interaction
  - (AA) Scenario integration
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- End of June - final presentation of the bullet list in Greifswald, invitation also towards stellarator lab heads. The presentation should also include the recommendation for the W7-X programme.
  - December - first draft of a journal paper



- GA endorsed new members
  - Mandates from 1st January 2025 until 31 December 2030, which will only be extended in case this is needed for a member to fulfil his/her duty as chair or deputy-chair

<b>Diagnostics</b>	
Bang Korsholm Søren	DTU
Conway Neil	UKAEA
<b>MHD, Disruptions &amp; Control</b>	
Pigatto Leonardo	ENEA-RFX/Padova
<b>Integrated Operating Scenarios</b>	
Ekedahl Annika	CEA
Jaulmes Fabien	IPP.CR
Bernert Matthias	IPP
<b>Energetic Particles</b>	
Coelho Rui	IST
Podestà Mario	EPFL
<b>Pedestal &amp; Edge Physics</b>	
Viezzer Eleonora	CIEMAT - Univer. of Seville
Perez von Thun Christian	IPPLM
<b>Scrape-off Layer &amp; Divertor</b>	
Brezinsek Sebastijan	FZJ



# 1st Joint CN-EU BEST Research Plan Meeting, 26-29 November 2024

## BEST Research Plan, 'v1' (~50-60 pages): draft structure

- Introduction and strategic considerations
  - Summary of the BEST machine and parameters
  - **Current status and future steps towards  $Q \sim 1$  inductive plasmas ( $t \sim 100s$ )**
  - Current status and future steps towards high-Q plasma and exploring burning plasma physics
  - Current status and future steps towards steady-state plasmas ( $t \sim 1000s$ )
  - Fusion technology
  - Outlook of future activities
  - 7.1: Plasma scenarios (extended list)
  - 7.2: H&CD and fueling
  - 7.3: EPs and theory & simulation
  - 7.4: Integrated modeling development (longer-term activities)
  - 7.5: MHD, control and disruptions
  - 7.6: Diagnostics (?)
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- May 2025 (proposal): 2nd BEST Research Plan Coordination Meeting  
Venue: Europe, to be determined; consider possible shift (week 19 May or 02 June 2025), if we need more time for TG meetings (EU-group meeting, 16/12)
  - Individual work of Topical Groups
  - Topical Group Meetings
  - Week 15-20 Sept. 2025 (proposal): 3rd BEST Research Plan Coordination Meeting (Hefei, CN)
  - **Beginning of Oct. 2025: good draft of the BEST Research Plan before IAEA-FEC**

Y. Kazakov de-briefing on 16/12/2025