TJ-II 2014 spring campaign

TJ-II experimental programme

TJ-II activity very much aligned with the EUROFUSION Work Programme:
25 February-3 July 2014: 13 weeks, 44 sessions

I. Enabling research: Fundamental understanding and longer perspective research

1. Isotope effect physics: Confinement and L-H power threshold: 5 sessions
   P.I.: C. Hidalgo (CIEMAT)

2. Phase-space dynamics of energetic ions in the presence of AEs: 5 sessions
   P.I.: M. García-Muñoz (Univ. Seville).
   Ciemat contact person: E. Ascasibar

3. Transport control based on magnetic resonances: 5 sessions
   P.I.: D. López-Bruna (CIEMAT)

4. Density limit control: . 4 sessions
   P.I.: G. Spizzo (ENEA-RFX)
   M. Ochando

5. Edge plasma electromagnetic filaments and associated transport. 2 sessions
   P.I.: M. Spolaore (ENEA-RFX)
   Ciemat contact person: A. Alonso

6. Reflectometry-based turbulence studies: 1 session
   P.I.: G. Conway (IPP-Garching)
   Ciemat contact person: T. Estrada

7. Turbulent transport near threshold: investigation of the effect of sheared flows and collisions on the ion- and electron-scale turbulence in tokamaks
   P.I.: A. Field (CCFE)
   Ciemat contact person: I. Calvo

TJ-II experimental programme

II. ITER Physics: strongly focused on delivering the high level work packages defined in the EU roadmap for developing fusion energy

1. Preparation of efficient PFC operation for ITER and DEMO (WPPFC)

Ciemat contact person: P. Tabarés

2. Alternative Divertor Geometries and Liquid Metals PFCs (WPDTT1): 5 sessions

Ciemat contact person: P. Tabarés

3. Preparation and Exploitation of W7-X Campaigns (WPS1)
Project leader: A. Dinklage (IPP-Greifswald)
Ciemat contact persons: E. Ascasíbar.

- 3.1. Validation of stellarator optimization via extended neoclassical simulations and dedicated experiments: 3 sessions
- 3.2. Impurity transport + momentum transport: 5 sessions
- 3.3. Reflectometry for W7-X

4. Stellarator Optimisation: Theory Development, Modelling and Engineering (WPS2).
Project leader: P. Castejón (CIEMAT)

III. Diagnostics development

1. Second HIBP commissioning: 2 sessions
C. Hidalgo, J.L. de Pablos

2. Pellet injector commissioning: 2 sessions
K. McCarthy

Collaboration related to ITPA-IOS

SSOCG: Areas for collaboration

As a result of the SSOCG meeting in Aix-en-Provence, 16 May 2013, the following topics have been identified for collaboration.

	Area	Contact
SSOCG-1	The use of IR cameras to detect hot spots with real-time event handling	X. Litaudon
SSOCG-2	The documentation of vacuum conditions required for steady state operation	G. Sips
SSOCG-3	The use of MIMO control of plasma shapes with SC coils, including error field compensation	Y.S. Bae, X. Gong
SSOCG-4	The control of wall particle content and sudden influxes (flakes)	K. Hanada, T. Mutoh
SSOCG-5	The documentation of irradiation damage on superconducting coils	IPR, India
SSOCG-6	The evaluation of gaps in the H&CD developments for steady state operation	D. Bora
SSOCG-7	Draft a roadmap for developing steady state operation	Chairs to ask for participation

+ Reports on PWI and NTFR

SSOCG – Report 2013 5 43rd FPCC, 28-29 January 2014

(see presentations by Mutoh-san and A. Dinklage)