Meeting of the TJ-II Access Committee

March 28, 2023. Spring 2023 Campaign.

Attendants:

TJ-II Access Committee Members: Andreas Dinklage (IPP, Greifswald, Germany), Carlos Silva (IST, Lisbon, Portugal), Monica Spolaore (ENEA, Padua, Italy) and Eleonora Viezzer (US, Seville, Spain).

Hiromi Takahashi (NIFS, Toki, Japan) could not attend this meeting. He sent his written endorsement of the session allocation.

TJ-II team members: Arturo Alonso (chair, minutes) and Teresa Estrada.

Minutes:

Arturo Alonso (AA) and Teresa Estrada (TE) welcome the members of the Access Committee. AA informs about the last-minute unavailability of H. Takahashi and that he has endorsed the Session Plan by written procedure.

AA introduces the agenda, staring with the Call for Participation (CfP) and news about the forthcoming campaign.

- A new proposal submission form has been put in place, that was distributed to this committee earlier, and has been disseminated making use of the Coordinated Working Group Meeting distribution list.
- The CfP resulted in 34 proposals requesting 70 sessions. From these, 12 were submitted by external proponents. The proposal list is made public at http://fusionwiki.ciemat.es/wiki/TJ-II:Experimental_proposals
- New developments for the Spring 2023 campaign include the re-commissioning of the CXRS system and other ion-temperature measuring techniques, the exploitation phase of the Fast-ion Loss Detector, reverse-field operation targeting NBI physics and the exploration of divertor-type configurations, among others.
- Andreas Dinklage (AD) asks about the potential for synergistic activities around of the TJ-II and W7-X FILD systems and the ability to run fast ion simulations (e.g. ASCOT) by the TJ-II team.
    - The FILD diagnostic is based on a pin-hole aperture and a scintillating screen in both devices and the University of Seville is in touch with both developments, which could facilitate the exchange of expertise and information and, potentially, the conduction of parallel experiments.
    - The TJ-II has the ability to run ASCOT and is working in producing synthetic FILD images for the interpretation of the measurements.
- Monica Spolaore (MS) asks about the background for the decision not to run deuterium plasmas in this campaign.
    - The isotopic replacement is a slow process and it would take several days to produce deuterium majority plasmas and then also return back to hydrogen. The number of experimental proposals requesting deuterium is small. TE and AA propose to announce a deuterium campaign in Fall to stimulate a larger number of proposals addressing isotopic differences.
- Carlos Silva (CS) asks about the low presence of W7-X/IPP proposals in the CfP and whether a stronger collaboration could be fostered.
    - The CfP has been given a broad diffusion but it coincided with the W7-X OP2.1 campaign, which likely resulted in a low time-availability of the IPP researchers. In future CfPs a more proactive approach

should be adopted, presenting campaign news in the W7-X Physics Meeting and approaching experts in specific subjects (e.g. divertor physics).
    - AD points out that the currently on-going restructuring of the CWGM should result in joint experiments involving W7-X and TJ-II.

Arturo Alonso proceeds with the presentation of the Spring 2023 proposals and session allocation (see below).

- Only two proposals have no allocated days:
- AD expresses a positive impression of the campaign focus and session allocation. Recommends to exploit a forthcoming deuterium campaign for multi-ion plasma studies similar to those conducted at LHD.
- Eleonora Viezzer (EV) agrees with AD's view of the possible interest of D/H/He plasmas. She asks about the number of new experimental sessions w.r.t. those that are a continuation of previous studies.
    - The proposal submission form does not register that information, but, in general, most sessions have been motivated by previous studies. Reverse-B experiments, divertor configurations or TESPEL (termination, enhancement) are examples of less explored session goals.
- CS asks about any issue with the operation of the heavy ion beam probe.
    - Two KIPT colleagues will be on-site for the manning of the diagnostic. In this campaign a local technician will be instructed in the operation of the system.
- MS asks about the difference of the ECWC program proposed at TJ-II (Moiseenko_ECWC) and W7-X.
    - The main difference is the short duration of the coil current flat-top which allows for only 200ms of plasma with long (several minutes) waiting period determined by the cooling down of the coil system.
- MS asks about the existence of back-up proposals.
    - In the event a session cannot be run (e.g. unavailability of diagnostics) back-up sessions are decided on short notice based on the progress of the campaign and the specific problem. It is in general difficult and to plan back-up proposals ahead of time for these could also be not conductible depending on the specific operational problem.

The AC endorses the following session allocation for the Spring 2023 TJ-II campaign:

Heating	Session focus	CW	Session	Main Proposal	Secondary proposals	
ECRH	NBI conditioning	15	11-Apr			
ECRH	ECRH testing		12-Apr			
ECRH	ECRH testing / 1st plasma		13-Apr			
ECRH	Restart and Mirnov calib	16	18-Apr	Pons_Calib		
ECRH	CXRS re-comm.		19-Apr	Mccarthy_CXRS	delaCal_SGPI	
ECRH + NBI	CXRS scan / TS comm.		20-Apr	delaRiva_CXRS		
ECRH		17	25-Apr	Contingency		
ECRH	Local E-balance		26-Apr	Carralero_ET	Yanna_PFlux	
ECRH	Island Div. Confs.		27-Apr	Alonso_IDiv	delaCal_SGPI	
ECRH	Pellet physics	18	3-May	Motojima_PDen		
ECRH	Local E-balance		4-May	Carralero_ET	Yanna_PFlux	

ECRH + NBI	Pellet physics	19	9-May	Kocsis_PO		
ECRH + NBI	Local E-balance		10-May	Carralero_ET	Medina_Hole	Tamura_IScreen
ECRH + NBI	Pellet physics		11-May	Panadero_PO	Yanna_PFlux	
ECRH + NBI	Rev-B: reference	20	16-May	Estrada_RevB	delaRiva_NBI	
ECRH + NBI	L-H transition and n-limit		17-May	Kobayashi_XPh	Pradalier_DLim	
ECRH	Rationals scan		18-May	vanMilligen_RS		
ECRH	Rev-B: restart	21	23-May	Pons_Calib		
ECRH + NBI	Rev-B: NBI physics		24-May	delaRiva_NBI	Estrada_RevB	
ECRH + NBI	Rev-B: Pellets and flows		25-May	Mccarthy_RevB		
ECRH + NBI	Rev-B: NBI physics	22	30-May	Estrada_RevB	delaRiva_NBI	
ECRH + NBI	Rev-B: NBI physics		31-May	Cappa_RevB	delaRiva_NBI	
ECRH + NBI	Rev-B: Pellets and flows		1-Jun	Mccarthy_RevB		
ECRH + NBI	FILD exploitation	23	6-Jun	Miranda_FIL	Garcia_OFIC	
ECRH + NBI	PiEC physics		7-Jun	Carreras_PiEC		
ECRH + NBI	PiEC physics		8-Jun	Medina_TESPEL	Tamura_DImp	
ECRH + NBI	Enhanced confinement by impurities	24	13-Jun	deCastro_LiP		
ECRH + NBI	Plasma termination		14-Jun	Tamura_PT		
ECRH + NBI	Diamagnetic RS		15-Jun	Pradalier_DRS	Yanna_PFlux	
ECRH + NBI	Turb. particle flux	25	20-Jun	Yanna_PFlux	Kozachock_AE	
ECRH + NBI			21-Jun	Miranda_LBO	Tamura_Dimp	
ECRH + NBI	Enhanced confinement by impurities		22-Jun	Regaña_ITT		
ECRH + NBI	2D edge characterisation	26	27-Jun	delaCal_SGPI		
ECRH + NBI	Feedback control		28-Jun	dePablos_CZF		
ECRH + NBI	RFA tests		29-Jun	Nedzelskiy_RFA	Kozachock_AE	