



Meeting of the TJ-II Access Committee

March 2, 2022. Spring 2022 A Campaign.

Attendants:

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

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

Minutes:

Arturo Alonso welcomes the members of the Access Committee (AC) and the TJ-II team members invited to the meeting and introduces the following points:

- The role of the external AC in the context of the *Laboratorio Nacional de Fusión* (LNF) as an *Instalación Científica y Técnica Singular* (ICTS). The fundamental role of the AC is to ensure the existence and adequacy of open access protocols for the TJ-II facility and the prevalence of scientific/technical excellence as access evaluation criteria. Besides, the AC is asked to feel free to make high-level recommendations about TJ-II campaign orientation, objectives, dissemination and coordination with other devices that could lead to a more efficient and impactful exploitation of the TJ-II device. Recommendations will be reflected in the minutes.
- The ICTS needs to implement an open competitive access policy with proved external demand from the national and international communities. At least 20% of the device time is to be made available to external national and international researchers.
- The strategic plan of the LNF 2021-2025 endorsed by the LNF STAC and the Strategic Objectives most related to the TJ-II device.
- The TJ-II individual campaign planning cycle: Call for Proposals in the [fusionwiki](#), the preliminary selection and session allocation by the heads of the Experimental Physics and Operation divisions, the examination by the internal committee for TJ-II campaigns and its final elevation to the Access Committee.
- The planning of medium-term TJ-II program and objectives, to be elaborated, discussed and agreed in the forthcoming LNF Annual Meeting.
- The time-line for the spring and summer campaign requires the AC to iterate with the Program Committee on short notice. On the longer run, the following sequence of actions for the preparation of TJ-II campaigns involving the AC is foreseen:
 - The AC will be made aware of the closing of the CfP and the list of proposals received for the experimental campaign.
 - The AC will be provided with the down selection of proposals as soon as their technical viability is assessed by the local team.
 - The AC meeting will take place at least one week before the start of the experimental campaign.

Arturo Alonso asks for comments or questions before proceeding with the presentation of the Spring 2022 A proposals and session allocation.



- Andreas Dinklage asks for the documents (presentation and Strategic Plan) to be made available to the AC and requested Terms of Reference document for the external AC based on the introductory explanations.
- Eleonora Viezzer asks for clarifications about the Strategic Objectives and their relation of the strategic objective related to plasma theory with the exploitation of TJ-II.
- Eleonora Viezzer asks whether proposals coming from researchers in Spanish institutes and universities are to be considered as external proposals –Arturo Alonso confirms they are.
- Monica Spolaore asks about the existence of collaboration agreements between TJ-II and Spanish Universities to foster the national interest in the facility and ease the recruiting of students. Arturo Alonso tells about the existence of collaborations with specific University groups and about on-going initiatives to strengthen the communication between the national plasma research community and the LNF.

Arturo Alonso proceeds with the presentation of the Spring 2022A proposals and session allocation (see below).

- Andreas Dinklage suggests making explicit the relevance of the individual proposals for specific objectives (e.g. ASCOT validation in NBI current drive experiments) and to indicate relations to activities beyond LNF, e.g. EUROfusion work packages (WPW7X) and International Collaborations (e.g. IEA stellarator-heliotron TCP).
- Andreas Dinklage asks about iota profile modeling activities to localize rational surfaces and the comparison with experiments (including MSE measurements) and if validated simulations are available. Teresa Estrada refers to A. Cappa work on plasma current profile simulations.
- Andreas Dinklage asks about the capability of the Motional Stark Effect system in TJ-II and any published results –Kieran McCarthy will distribute a related work.
- Hiromi Takahashi asks about the proposal template. He suggests adapting the fields and format to ease their evaluation.
- Hiromi Takahashi asks for plans to disseminate TJ-II campaigns also in the Asia-Pacific region. Andreas Dinklage suggests using the distribution list of the Coordinated Working Group Meeting to announce calls for participation and encouraged Hiromi Takahashi to discuss with Yasuhiro Suzuki if a CWG Meeting could be dedicated/open as a forum for envisaged 20% share from international contributions to the TJ-II program. Hiromi Takahashi also asked if there exists the possibility to obtain further essential information on proposals and if oral presentations will be needed for proposals. Arturo Alonso responds saying that a TJ-II essential Information Sheet that is in development.
- Eleonora Viezzer asks for the campaign objectives to be made clear in order to judge the scientific excellence of the proposals.
- Monica Spolaore suggests identifying clearly external/internal proposals in the access protocol. It was agreed that the process should be made attractive to external groups such as universities and to young talent.
- Carlos Silva asks about the current situation concerning the IAEA Joint Experiment. Kieran McCarthy reports that it is currently planned for the week 20th to 24th June 2022 but there are still uncertainties due to the ongoing pandemic and to the situation in Eastern Europe.
- Monica Spolaore ask about the capabilities and objectives of the new Mirnov coil arrays. Arturo Alonso explains that the main purpose is to analyze the spatial structure of Alfvén modes.
- Arturo Alonso speaks about developing a formal call process for proposals coming from outside the LNF. He also notes that the format of this meeting is in transition and that members will note an evolution in the process with future meetings.

The AC endorses the following session allocation for the Spring 2022A TJ-II campaign:



TJ-II Spring 2022 proposals and session allocation.

Short name	Proponent	Title	operation days (req.)	days as Main proposal	days as Secondary proposal
Panadero_TESPEL	N. Panadero	Spectroscopic studies of TESPEL-shell ablation clouds	3	3	3
Miranda_LBO	B. López-Miranda	Impurity injection by laser blow-off (LBO): Confinement and transport studies of high Z impurity injection by LBO in ion-root scenarios (II). Comparison to neoclassical and turbulence simulations.	3	1	3
Estrada_3over2	T. Estrada	Turbulence and flow measured at the 3/2 magnetic island using Doppler reflectometry	1	2	1
Kocsis_Pellets	G. Kocsis	Imaging of pellet cloud dynamics in TJ-II using Halpha and bremsstrahlung filters and a fast-frame camera	2	0	1
Estrada_NBI	T. Estrada	NBI1 vs. NBI2 heated plasma comparison	1	2	0
Miranda_Zeff	B. López-Miranda	Zeff measurement using visible bremsstrahlung (VB) with NBI heating (II)	3	1	2
Miranda_TOF	B. López-Miranda	Impurity transport studies by LILA-TOF detection. A Lithium Laser-Ablation based Time-of-Flight (LILA-TOF) diagnostic for measuring plasma edge ion temperature (II). Influence of toroidal plasma rotation	3	1	0
Panadero_drift	N. Panadero	Studies of pellet plasmoid drift in different magnetic configurations	2	1	0
VanMilligen_Rational	B. Van Milligen	Turbulence properties near a rational surface	1	1	0
HIBP_ZFs	HIBP Team	On the search of Zonal Flows and the influence of Alfvén Eigenmodes in the TJ-II stellarator	2	0	0
Cappa_AEspatial	A. Cappa	Determination of the spatial periodicity of NBI-driven Alfvén Eigenmodes and study of its magnetic configuration dependence	2	0	0
Hidalgo_AE_turb	C. Hidalgo	On the electrostatic transport driven by Alfvén modes and broadband turbulence in the plasma edge region of the TJ-II stellarator	2	0	0
Escande_EdgeEr	D. Escande	Influence of edge radial electric fields on impurity transport	2	0	0
Cappa_AE	A. Cappa	Searching for AEs suppression scenarios using off-axis ECCD	1	0	0
Carralero_Filament	D. Carralero	Influence of magnetic configuration on filament dynamics	3	0	0
Igor_RFA	I. Nedzelskiy	Combining retarding-field energy analyzer and electrostatic probes measurements, an approach to measure the phase relation between density and temperature fluctuations using RFA?	1	0	0



HIBP_2D	HIBP Team	2D mapping of plasma parameters using HIBP	1	0	0
HIBP_LH	HIBP Team	L-H transition studies: characterization of plasma turbulence using Gas Puff Imaging, Probes, Doppler reflectometry and HIBP diagnostics	1	0	0
Cortes Pellets	I. García-Cortés	Multipellet injection in NBI plasmas. Characterization of PiEC mode	5	0	0
Igor RFA2	I. Nedzelskiy	SOL Temperature profiles using RFA role of edge radial electric fields	4	0	0
Cappa_Mirnov	A. Cappa	Calibration of the helical arrays of Mirnov coils	1	0	2
Voldiner GPI	I. Voldiner	Measurements using Gas Puff Imaging system	1	0	0
Cappa_CD	A. Cappa	Validation of neutral beam current drive	2	0	2
Regaña Turb	J.M. García-Regaña	Impact of impurities on turbulence	2	0	1

	CW	Session	Main Proposal	Essential diagnostics and systems	Complementary diagnostics	Mag. Conf	Secondary proposals
ECRH	9	1-Mar	Estrada_3over2	*C-mode operation *Doppler Refl.	* Thomson * Bol. And SXR	C-mode	Cappa_Mirnov -
		2-Mar	Estrada_3over2	*C-mode operation *Doppler Refl.	* Thomson * Bol. And SXR	C-mode	Cappa_Mirnov -
		3-Mar	Miranda_TOF	* Nd:YAG laser * VUV spec.	* Thomson * Bol. And SXR	100_44_64	Panadero_TESPEL -
	10	8-Mar	Panadero_TESPEL	* TESPEL (or PI) * Vis. and VUV spec. * Fast camera	* Thomson	100_44_64	Miranda_LBO -
		9-Mar	Miranda_LBO	* Nd:YAG laser * VUV spectrometer * Thomson * Doppler refl.	* NPA * HIBP	100_44_64	Panadero_TESPEL Regaña_Turb
		10-Mar	Panadero_TESPEL	* TESPEL (or PI) * Vis. and VUV spec.	* Thomson	100_44_64	Miranda_LBO -



ECRH + NBI	11	15-Mar	Miranda_Zeff	* Fast camera			
		16-Mar	Panadero_TESPEL	* VUV spec. * Bol. And SXR	* Thomson * Doppler Refl.	100_44_64	Panadero_TESPEL -
		17-Mar	VanMilligen_Rational	* TESPEL (or PI) * Vis. and VUV spec. * Fast camera	* Thomson	100_44_64	Miranda_LBO -
	12	22-Mar	Estrada_NBI	* Biasing * Langmuir probes.	* Doppler Refl. * HIBP	100_40 and 100_44	Estrada_3over2 -
		23-Mar	Estrada_NBI	* IR camera NBI2 * Bol. And SXR * Thomson * H-alpha monitors	* FILD	100_44_64	Cappa_CD Miranda_Zeff
		24-Mar	Panadero_drift	* IR camera NBI2 * Bol. And SXR * Thomson * H-alpha monitors	* FILD	100_44_64	Cappa_CD Miranda_Zeff
			* Pellet injector * Fast camera * Thomson		100_44_64	Kocsis_Pellets -	