

# 43<sup>rd</sup> Meeting of the ITPA Topical Group on Diagnostics

22nd May – 25th May 2023

Eindhoven DIFFER site

## A G E N D A ver 3

Presentations & Agenda updates  
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## ITER-relevant diagnostic Progress in the Russian Federation

Monday 22<sup>nd</sup> of May

CET Time	<i>Chair: G. Vayakis</i>	
09:00	Welcoming Words (5'+ 5')	A. Krasilnikov
09:10	Status of H-alpha and visual spectroscopy (15+5)	A. Alekseev
09:30	Status of HFS ITER reflectometry (15+5)	V. Vershkov
09:50	Neutral Particle Diagnostic system at ITER: progress and current status (15+5)	M. Mironov
10:10	Final Design Challenges of the ITER Diagnostic Divertor Neutron Flux Monitor (15+5)	T. Kormilitsyn
10:30	<b><i>Break for coffee (25)</i></b>	
	<i>Chair: R. Reichle</i>	
10:55	Status of DTS diagnostic for ITER (15+5)	E. Mukhin
11:15	Progress of ITER Vertical Neutron Camera (15+5)	G. Nemtsev
11:35	Recent progress in the CXRS-edge diagnostic development (15+5)	S. Tugarinov
11:55	An ITER-relevant first mirrors unit with integrated mirror cleaning system utilizing a capacitive coupled radio frequency discharge (15+5)	D. Samsonov
12:15	<b><i>Break for lunch (1:30)</i></b>	
	<i>Chair: R. Tieulent</i>	
13:45	Characterization of Neutron Generator for the ITER In-Vessel In-situ Calibration (15+5)	T. Kormilitsyn
14:05	Updated Software for ITER Structural Materials Activation Analysis (15+5)	D. Portnov
14:25	Diagnostics for the Globus-M2 tokamak (20+5)	G. Kurskiev
14:50	<b><i>Break for coffee (25)</i></b>	
15:15	Diagnostic complex of the tokamak T-15MD (15+5)	A. Sushkov
15:35	Plasma Diagnostic of Tokamak with Reactor Technologies (25+5)	Y. Kashchuk and S. Konovalov
16:05	<i>Adjourn</i>	

## 43<sup>rd</sup> Meeting of ITPA Diagnostics TG

Tuesday 23<sup>rd</sup> of May

	<i>Chair: D. Mazon</i>	
09:00	Welcome (10'+5')	M. Walsh
	<i>Topical Group Activities: Part 1</i>	
09:15	Update of Topical Group Activities: Part 1 (25'+5')	Didier Mazon
09:45	Review of Action Items: Part 1 (25'+5')	Gunsu Yun
	<i>Progress at ITER Organization</i>	
10:15	ITER diagnostic design progress (25'+5')	George Vayakis
10:45	<i>Break for coffee</i>	
	<i>Chair: G.Vayakis</i>	
11:00	BEST Diagnostics (25'+5')	Haiqing LIU
11:30	Spectroscopy diagnostics of BEST (25'+5')	Zhang Ling
12h00	<b>Lunch</b>	
	<i>Chair: G. Yun</i>	
13:15	EUROfusion Diagnostic Programme in Support of ITER (20'+5')	João Figueiredo
	<i>HP: Develop diagnostic, calibration techniques and strategies compatible with the burning plasma environment</i>	
	<i>Fusion Products</i>	
13:40	Fusion Product -SWG Report (20'+5)	M. Scholz
14:05	Neutronics study for the design of a neutron test bed facility for diagnostics and critical components of ITER (20'+5')	Sara Villari
14:30	Opportunities for material irradiation in CABRI experimental reactor (20'+5')	Christine Coquelet-Pascal
14:55	GET-ART project: an alternative novel method to measure DT fusion power in magnetic confinement fusion based on detection of 17 MeV gamma rays (15'+5')	M. Tardocchi
15:15	<i>Break for coffee</i>	
15:30	High-resolution 14 MeV neutron spectroscopy measurements in DT plasmas at JET with diamond detectors (10'+5')	D. Rigamonti
15:45	Gamma Ray Spectrometer System and its measuring capability (15'+5')	Gabriele Croci/Marica. Rebai
16:05	First Wall SWG Report (20'+5') + JEX 8 report	Byron Peterson/L.Marot
16:30	Fast calculation of synthetic images for ITER video cameras using interpolated ray transfer matrices (15'+5')	Vladislav Neverov
	<i>Passive Spectroscopy diagnostics</i>	
16:50	Passive Spectroscopy SWG Report (20'+5')	M. O'Mullane
17:15	Proposal of GEM gas detectors as ex-vessel Radial X-ray Cameras for ITER nuclear phase (15'+5')	D. Pacella
17:35	Bayesian soft X-ray tomography and tungsten impurity concentration estimation at WEST (15'+5')	Hao Wu
17:55	A newly installed visible spectroscopy system for full radial profile observation of M1 transition from tungsten ions in EAST tokamak (15'+5')	HU Ailan
18:15	Analysis of tungsten spectra in EUV range from W4+ to W45+ ions in EAST plasma for ITER tungsten spectroscopic diagnostics (15'+5')	Zhang Ling
18:35	<i>Adjourn</i>	

## 43<sup>rd</sup> Meeting of ITPA Diagnostics TG

**Wednesday 24<sup>th</sup> of May**

	<i>Chair: Stanislav Serov</i>	
	<i>First Mirror Issues</i>	
	<i>HP: Determination of the life time of plasma facing mirrors used in optical systems</i>	
09:00	Report of the First Mirror SWG : <i>Assess the life-time of plasma facing mirrors used in optical systems</i> and Update on JEX DIAG-2 (20'+5')	A. Litnovsky
09:25	JEX DIAG-13 report LIBS for ITER: (15'+5')	A. Bultel
09:45	JEX DIAG-14 report LIBS for ITER (15'+5')	S. Brezinsek
10:00	<i>Break for coffee</i>	
	<i>HP: Assessment of impact of microwaves on diagnostic systems</i>	
10:30	MW SWG Report (20'+5)	S. Korsholm
10:55	Parametric Decay of Electron Cyclotron Heating Waves and Associated Bursts in the ECE Spectrum (20'+5')	Stefan KraghNielsen
11:20	Analysis of Differences on plasma temperature measurements by ECE and High Resolution Thomson Scattering in JET high performance discharges (20'+5')	F.P Orsitto
11:50	<i>Lunch</i>	
	<i>Chair: J. Figueiredo</i>	
	<i>Active Spectroscopy diagnostics</i>	
13:20	Active Spectroscopy SWG Report (20'+5')	Sandor Zoletnik
	<i>HP: Assess Plasma Control System measurement requirements</i>	
	<i>Real-time Measurements and Control</i>	
13:45	Real-time SWG Report (20'+5')	M. De Baar
14:10	JEX DIAG-15 report on Density control with pellets (15'+5')	M. De Baar
14:30	Modeling pellet injection : from the injector to the matter deposition in the plasma (20'+5')	Eleonore Geulin
14:55	Validation of the pellet ablation-deposition codes (15'+5')	Bernard Pégourié
15:15	PCS recent developments and input from diagnostics (15'+5')	L. Zabeo
15:35	<i>Break for coffee</i>	
	<i>Laser-Aided diagnostics</i>	
	<i>Chair: M.Scholz</i>	
16:00	Laser-Aided SWG Report (20'+5')	H.Q Liu/Rory Scannell
16:25	Conceptual Design of the Collection Optical System for Polarization Thomson Scattering on ITER (25'+5')	Daniel den Hartog
16:55	<i>Adjourn</i>	
19:30	Gala Dinner	

## 43<sup>rd</sup> Meeting of ITPA Diagnostics TG

**Thursday 25<sup>th</sup> of May**

	<i>Chair: D.Mazon</i>	
	<i>Radiation effects</i>	
08:30	Radiation Effect SWG Report (20'+5')	I. Duran
08:55	A Method for the Performance Evaluation and the Neutron Irradiation Effect Study of XCS HOPG Prereflectors (10'+5')	Dian Lu
09:10	Study of radiation effects on FOCS optical components (15'+5')	A Goussarov
	<i>Integrated Data analysis and validation</i>	
09:30	IDAV SWG –Integrated Data Analysis and Validation: Implementation and Activities (15'+5')	R. Fischer
09:50	Update on synthetic diagnostics platform for confinement and power exhaust studies (15'+5')	A Medvedeva
10:10	the Sci(entific)-Compiler an innovative software tool to program the Open FPGA of CAEN boards (10'+5')	G. Di Maio/Andrea Abba
	<i>Reporting: NucFUS Paper and IRP</i>	
10:25	Nuc Fus paper Chapter 1 and IRP A7/A9/A14 (5'+5')	Suk-Ho Hong/B.Peterson
10:35	Nuc Fus paper Chapter 2 and IRP A11-13-16 (5'+5')	M. Scholz
10:45	Nuc Fus paper Chapter 3 (5'+5')	S. Zoletnik
10:55	Nuc Fus paper Chapter 4 (5'+5')	M. O'Mullane
11:05	Nuc Fus paper Chapter 5 and IRP A17/A19 (5'+5')	R. Scannell
11:15	Nuc Fus paper Chapter 6 (5'+5')	S. Korsholm
11:25	<i>Break for coffee</i>	
11:40	Nuc Fus paper Chapter 7(5'+5')	I. Duran
11:50	Nuc Fus paper Chapter 8 and IRP 18 (5'+5')	A. Litnovsky
12:00	Nuc Fus paper Chapter 9 (5'+5')	M. De Baar
12:10	Nuc Fus paper Chapter 10 (5'+5')	R. Fischer
12:20	<i>General Conclusions and comments (10')</i>	D.Mazon, All
12:30	<i>Lunch break</i>	
	<i>Chair: M. De Baar</i>	
	<i>Party Reports:</i>	
	<i>Developments in Japan</i>	
14:00	Japan Progress Report : Recent Progress on Design Activities for Diagnostics, Development in QST (20'+5')	M. Ishikawa
	<i>Developments in Korea</i>	
14:25	Korea Progress Report (20'+5')	YoungHwa An
	<i>Developments in China</i>	
15:50	CHINA Progress Report (20'+5')	Hu Qingsheng
	<i>Developments in India</i>	
15:15	IN-DA Progress Report (20'+5')	Sapna Mishra
	<i>Developments in Russia</i>	
15:40	Russia Progress Report (20'+5')	K. Vukolov
	<i>Developments in US</i>	
16:05	US Progress Report (20'+5')	R. Boivin
16:30	<i>Break for coffee</i>	
	<i>Topical Group Activities: Part II</i>	
	<i>Chair: G. Vayakis</i>	
16:45	Update of Topical Group Activities: Part 2 (15'+5')	Didier Mazon, All

17:05	Review of Action Items: Part 2 (35'+5')	Gunsu Yun, All
17:45	<i>Adjourn - Meeting Ends</i>	