38th Meeting of the ITPA Topical Group on Diagnostics

**12-15 October 2020**

**Remote Meeting due to COVID**

**ITER Organization**

**Cadarache, France**

A G E N D A version 1

Presentations & Agenda updates should be uploaded here

<https://portal.iter.org/departments/POP/ITPA/Diag/DIAG/default.aspx?InstanceID=41>

Slides and Video can be followed live here using Skype for Business:

<https://meet.iter.org/julie.juif/QL4LWYW1>

Audio only can be joined by phone

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Please, keep your microphones mute when not speaking

**38th Meeting of ITPA Diagnostics TG**

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**IO-EU Progress on ITER Diagnostics**

Monday, 12 October

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|  | ***Chair: George Vayakis*** |  |
| 09:00 | Welcome (5’) | A. Alekseev |
| 09:05 | Summary of F4E (EU-DA) progress (20'+5') | C. Ingesson |
| 09:30 | EURO Fusion Diagnostic programme in support of ITER (20’+5’) | J. Figueiredo |
| 09:55 | Status of the Divertor and Intensities Monitor (15'+5') | M. Blacksell  |
| 10:15 | ST-40 and ST-F1 diagnostics: Tokamak Energy (20’+5’)  | G. Naylor |
| 10:40 | Update on IO First Mirror activities (20’+5’)  | L. Moser |
|  | ***Coffee/Tea Break*** |  |
|  | ***Chair: Christopher Watts*** |  |
| 11:25 | Dust monitor development progress (15’+5’) | E. Veshchev |
| 11:45 | Update on steady state sensors (10’+5’) | M. Kocan |
| 12:00 | Preliminary Design of ITER Density Interferometer Polarimeter (10’+5’) | A. Sirinelli |
| 12:15 | Design modification of 55.E5 XRCS Core (10’+5’) | Z. Cheng |
| 12:30 | Toroidal field mapping R&D update (15’+5’)  | G. Severino |
| 12:50 | ***Lunch*** |  |
|  | ***Chair: Robin Barnsley*** |  |
| 13:50 | Window stress measurement using birefringence (10’+5’) | G. Jagganathan |
| 14:05 | Updates on the Ex-Vessel Electrical Services Design (10’+5’) | A. Danisi |
| 14:20 | Update on temporary IR diagnostic for first plasma (10’+5’) | M. Kocan |
| 14:35 | 55.G8 Vertical Target vibration measurements (10’+5’) | M. Kempenaars |
| 14:50 | Update on the 55.NE Electrical Services (10’+5’) | M. Clough |
| 15:05 | ECH sensor for the Diagnostic Windows (10’+5’) | R. Zubieta |
| 15:20 | ITER Update Vertical neutron camera: optimizing diagnostics collimators (10’+5’) | D. Gin |
| 15:35 | ***Adjourn*** |  |
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**38th Meeting of ITPA Diagnostics TG**

Tuesday, 13 October

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|  | ***Chair: D. Mazon*** |  |
| 09:00 | Welcome (10'+5’) | M. Walsh |
|  | ***Topical Group Activities: Part 1*** |  |
| 09:15 | Update of Topical Group Activities: Part 1 (25'+5') | Didier Mazon |
| 09:45 | Review of Action Items: Part 1 (25'+5') | San Gong Lee |
|  | ***Progress at ITER Organization*** |  |
| 10:15 | ITER diagnostic design progress (20’+5’) | George Vayakis |
| 10:40 | ***Coffee/Tea Break*** |  |
|  | ***Chair: S. G. Lee*** |  |
|  | **HP: *Assessment of impact of microwaves on diagnostic systems*** |  |
|  | ***First Wall Issues*** |  |
| 10:55 | First Wall SWG Report + JEX DIAG 8 (25'+5') | Suk-Ho Hong  |
| 11:25 | Progress of reflection elimination code for KSTAR (15’+5) | S.T.Oh |
| 11:45 | Assessing global Be erosion via tomographic reconstruction of 3D Be emission profiles in ITER (15’+5) | V. Neverov |
| 12:05 | ***Lunch*** |  |
|  | ***Chair: S. Zoletnik*** |  |
|  | ***HP: Develop diagnostic, calibration techniques and strategies compatible with the burning plasma environment*** |  |
|  | ***Passive Spectroscopy diagnostics*** |  |
| 12:55 | Passive Spectroscopy SWG Report (20’+5’) | M. O’Mullane  |
| 13:20 | Development of a 3D printed water cooled bolometric camera for vertical view in WEST (15’+5) | P. Devynck |
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|  | ***Fusion Products*** |  |
| 13:40 | Fusion Product -SWG Report + JEX DIAG 11 (20’+5) | M. Scholz |
| 14:05 | Simulation of the neutron calibration for NPM (15’+5) | T. Nishitani |
| 14:25 | Improved lost alpha Faraday Cups measurements on JET relevant to ITER (15’+5) | P. Bonofiglo |
| 14:45 | GRAM:gamma-ray monitor of lost alpha particles in fusion reactor (15’+5) | V.Kiptily |
| 15:05 | Neutron and gamma ray Diagnostics for the JET DT campaign and prospects for ITER (15’+5) | M. Tardocchi |
| 15:25 | MW SWG Report (20’+5) | M. Austin |
| 15:50 | ***Adjourn*** |  |
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**38th Meeting of ITPA Diagnostics TG**

Wednesday, 14 October

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|  | ***Chair: L. Hu*** |  |
|  | ***First Mirror Issues*** |  |
|  | **HP: *Determination of the life time of plasma facing mirrors used in optical systems*** |  |
| 09:00 | Radiation Effect SWG Report (25’+5’) | A. Goussarov |
| 09:30 | Report of the First Mirror SWG : *Assess the life-time of plasma facing mirrors used in optical systems* and Update on JEX DIAG-2 (25'+5') | A. Litnovsky |
| 10:00 | RF Discharge mirror cleaning configuration optimization (15’+5) | K. Soni |
| 10:20 | Effect of plasma cleaning cycles on single and nanocrystal (15’+5) | F. Sanchez |
| 10:40 | Lab-scale demonstration of impurity deposition characteristics on model Au surfaces for first mirrors in ITER VUV port #11" (15’+5) | K. Yookwan |
|  | ***Coffee/Tea Break*** |  |
|  | ***Chair: J. Figueiredo*** |  |
|  | ***Laser-Aided diagnostics*** |  |
| 11:15 |  Laser-Aided SWG Report (20’+5’) | R. Scannell |
| 11:40 | Plasma polarimetric measurements using modulation of polarization (15’+5) | F. Orsitto |
| 12:00 | Development of one micrometer dispersion interferometer for the KSTAR shattered pellet injection experiment (15’+5) | K.C.Lee |
|  | ***Active Spectroscopy diagnostics*** |  |
| 12h20 | Active Spectroscopy SWG Report (25’+5’)  | S. Zoletnik |
| 12:50 | Benchmarking of CXRS modelling against JET experimental data (15’+5) | S. Serov |
| 13h10 | ***Lunch*** |  |
|  | ***Chair: A. Litnovsky*** |  |
|  | ***HP: Assess Plasma Control System measurement requirements*** |  |
|  | ***Real-time Measurements and Control*** |  |
| 14:00 | Realtime SWG Report: From Synthetic Thomson scattering diagnostic to control oriented analysis (25’+5’) | M. De Baar |
| 14:30 | Development of Synthetic Diagnostics for ITER (part 1) (10’+5) | M. Schneider |
| 14:45 | Development of Synthetic Diagnostics for ITER (part 2) (10’+5) | A. Medvedeva |
| 15:00 | Measurements and modelling of diamagnetic flux in ASDEX-upgrade (15’+5) | L. Giannone |
|  | ***Integrated Data analysis and validation*** |  |
| 15:20 | IDAV SWG –First activities (25’+5’) | R. Fisher |
| 15:50 | Potentials for physics driven integrated data analysis for W7-X divertor plasmas: integrating core, edge and SOL. (20’+5) | A. Dinklage |
| 16:15 | Diagnostics models in IMAS: status and plans (20’+5) | S. Pinches |
| 16h40 | Integrated Data Analysis of fast-ions measurements (15’+5) | M. Salewski |
| 17:00 | ***Adjourn*** |  |
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**38th Meeting of ITPA Diagnostics TG**

Thursday, 15 October

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|  | ***Chair: M. O’Mullane*** |  |
|  | ***Discussion IRP/NucFUS Paper*** |  |
|  | ***Chair: M De Baar*** |  |
| 09:00 | IRP A11: Synergies of ITPA DIAG and EP (15’+5) | M. Salewski |
| 09:20 | Progress on IRP 14:IR Measurement with reflections in Metallic environment (15’+5) | M.H Aumenier |
| 09:40 | IRP A7: Demonstrate LIDS as quantitative in-situ diagnostic measurement for T retention in Be co-deposits at divertor’(15’+5) | M. Zlobinski |
| 10:00 | IRP A9: LIBS for ITER(15’+5) | C. Grisolia |
| 10:20 | IRP A11-13-16: Status of ITER FP Diagnostics and Nuc Fus Publication (15’+5) | M. Scholz |
| 10:40 | IRP A8: Performance of single crystal mirror with/without active cleaning (15’+5) | A.Litnovsky |
| 10h55 | IRP A17 and A19: present status (15’+5) | R. Scannell |
| 11h15 | ***Coffee/Tea Break*** |  |
|  | ***Party Reports*** |  |
|  | ***Developments in Japan*** |  |
| 11:30 | Japan Progress Report : Recent Progress on Design Activities for Diagnostics, Development in QST (20’+5’) | M. Ishikawa |
| 12:00 | ***Lunch Break*** |  |
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|  | ***Developments in KO*** |  |
| 13:00 | Progress of ITER KO-DA Diagnostics (20’+5’)  | Y.H. An |
|  | ***Developments in China*** |  |
| 13:25 | CHINA Progress Report (20’+5’) | ?? |
|  | ***Developments in India*** |  |
| 13:50 | IN-DA Progress Report (20’+5’)  | ?? |
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|  | ***Developments in Russia*** |  |
| 14:15 | Russia Progress Report (20’+5’) | K. Vukolov |
|  | ***Developments in US*** |  |
| 14:40 | US Progress Report (20’+5’) | R. Boivin |
| 15:05 | Contribution of RE SWG to Nuc Fus publication: influence of RE on the refinement of the ITER design (10’+5) | A. Goussarov |
| 15:20 | Contribution of MW SWG to Nuc Fus paper: Advances in microwave diagnostics for ITER and beyond (15’+5) | M.Austin |
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| 15:40 | ***Coffee/Tea Break*** |  |
|  | ***Topical Group Activities: Part II*** |  |
|  | ***Chair: D. Mazon*** |  |
| 16:00 | Update of Topical Group Activities: Part 2 (15'+5') | Didier Mazon, All  |
| 16:20 | Review of Action Items: Part 2 (35'+5') | San Gong Lee, All |
| 17:00 | ***Adjourn - Meeting Ends*** |  |
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