34th Meeting of the ITPA Topical Group on Diagnostics

**23-26 April 2018**

**General Atomics, San Diego, California, USA**

A G E N D A ver 3.0

Presentations & Agenda updates can be transferred here

[**https://portal.iter.org/departments/POP/ITPA/Diag/DIAG/default.aspx?InstanceID=37**](https://portal.iter.org/departments/POP/ITPA/Diag/DIAG/default.aspx?InstanceID=37)

Remote Connection Information

1. Using H.323-based Video Conferencing system

1. Dial 162.255.37.11(US West) or 162.255.36.11 (US East)
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2. Using telephone

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3. Using PC, Mac, iPad, iPhone or Android device

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2. Go to the URL <https://zoom.us/j/8584552150>

Note: If the attendee is joining from PC, Mac, iPad, iPhone or Android device for the first time they will have to install the Zoom Client.

Arrival and Meeting Room

General Atomics Headquarters Directions available at: http://www.ga.com/location-map-and-hotels

3550 General Atomics Court
San Diego, CA 92121-1122

Arrive at the General Atomics Visitor Center by 08:30. Collect your identification badge from the Visitor Center front desk. You must present your passport to prove your identity. Guides will escort you to the meeting location in Building 15, Room 15-019.

**US Progress on ITER Diagnostics**

Monday, 23 April

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|  | ***Chair: D. Pace*** |  |
| 09:00 | Welcoming Words - Logistics (10'+5’) | D. Pace/R. Boivin |
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| 09:15 | US ITER systems overview (25'+5') | H. Neilson |
| 09:45 | Toroidal Interferometer and Polarimeter, TIP (25’ +5’) | M. Van Zeeland |
| 10:15 | Phase Demodulation for TIP (15’+5’) | D. Finkenthal |
| 10:35 | ***Coffee/Tea Break*** |  |
|  | ***Chair: T. Biewer*** |  |
| 11:00 | ECE System (25’ +5’) | M. Austin |
| 11:30 | Low Field Side Reflectometer, LFSR 1 (25’ +5’) | C. Muscatello |
| 12:00 | ***Group Photo*** |  |
| 12:15 | ***Lunch*** |  |
|  | ***Chair: M. Austin*** |  |
| 13:15 | Low Field Side Reflectometer, LFSR 2 (25’ +5’) | G. Wang |
| 13:45 | Diagnostic Residual Gas Analyser, DRGA (25’ +5’) | T. Biewer |
| 14:15 | Wide Angle Viewing System, WAVS (25’ +5’) | C. Lasnier |
| 14:45 | ***Coffee/Tea Break*** |  |
|  | ***Chair: C. Lasnier*** |  |
| 15:15 | Magnetic Measurements on DIII-D (25’+5’) | T. Strait |
| 15:45 | Proto-MPEX and MPEX (25’ +5’) | T. Biewer |
| 16:15 | X-ray calorimeters for ion temperature and impurity measurements of burning plasmas (15’+5’)  | P. Beiersdorfer |
| 16:35 | Implementation of an x-ray calorimeter on DIII-D (15’+5’) | G. Brown |
| 16:55 | DIII-D long tem plans (25’ +5’) | D. Pace |
| 17:25 | **Adjourn** |  |
| 18:00 | ***Reception at GA -Hosted by General Atomics*** |  |

**34th Meeting of ITPA Diagnostics TG**

Tuesday, 24 April

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|  | ***Chair: D. Brower*** |  |
|  | ***Topical Group Activities: Part 1*** |  |
| 09:00 | Update of Topical Group Activities: Part 1 (25'+5') | David Brower |
| 09:30 | Review of Action Items: Part 1 (25'+5') | Didier Mazon |
|  | ***Progress at ITER Organization*** |  |
| 10:00 | ITER diagnostic design progress (25’+5’) | George Vayakis, |
| 10:30 | ***Coffee/Tea Break*** |  |
|  | ***Chair: L.Q. Hu*** |  |
|  | ***Laser-Aided diagnostics*** |  |
| 11:00 |  Laser-Aided SWG Report + Recent progress of Laser-Aided Plasma Diagnostics on EAST (25’+5’) | H.Q. Liu |
| 11:30 | 1 micron dispersion interferometer for extremely high density range on ITE (15’+5’) | T. Akiyama |
| 11:50 | DIII-D Faraday-Effect Polarimeter for Fast Magnetic DynamicsMeasurement (20’+5’)  | Jie Chen |
| 12:15 | ***Lunch*** |  |
|  | ***Chair: D. Mazon*** |  |
|  | ***Microwave diagnostics*** |  |
| 13:30 | Microwave SWG Report (25’+5’) | M. Austin |
| 14:00 | Overview of ECE diagnostics on EAST (15’+5’) | Yong Liu |
| 14:20 | Dependence of ICE frequency spectrum on density and comparison with nonlinear simulation (15’+5’) | T. Akiyama |
| 14:40 | ICE Measurements on DIII-D (25’+5’) | K. Thome |
| 15:10 | ***Coffee/Tea Break*** |  |
|  | ***Chair: J. Howard*** |  |
|  | **HP: *Assess Plasma Control System Measurement Requirements*** |  |
| 15:40 | Setting-up the Density Feedback Control System and Experiments in the KSTAR tokamak (15’+5’) | J.W. Juhn |
| 16:00 | Plasma confinement performance and H factor on EAST (15’+5’) | Biao Shen |
|  | **HP: *Determination of the life time of plasma facing mirrors used in optical systems*** |  |
| 16:20 | Report of the First Mirror SWG : ***Assess the life-time of plasma facing mirrors used in optical systems +*** Update on JEX DIAG-2: *Environmental tests on diagnostic first mirrors* (25'+5') | A. Litnovsky |
| 16:50 | In-port plug optical shutter development for Edge Thomson Scattering (ETS), Divertor Impurity Monitor (DIM) and Divertor Infrared Thermography (IRTh) (10’+5’) | E. Yatsuka |
| 17:05 | Imaging Upper Divertor in DIII-D with a mirror on DIMES: Prototype Test and Future Perspectives (5’+5’) | I Bykov/D Rudakov |
| 17:15 | **Adjourn** |  |

**34th Meeting of ITPA Diagnostics TG**

Wednesday, 25 April

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|  | ***Chair: A. Litnovsky*** |  |
|  | ***Passive Spectroscopy diagnostics*** |  |
| 09:00 | Subdivertor fuel isotopic content detection limit for JET deuterium-tritium experimental campaign(s) (15’+5’) | Chris Klepper – (remote) |
| 09:20 | Passive Spectroscopy SWG (25’+5’) | S. Varshney/ C. Seon (remote) |
| 09:50 | Current status of Imaging X-ray Crystal Spectrometers on EAST (15’+5’) | Bo Lyu |
| 10:15 | Report on JEX DIAG-6; Cross Comparisons of Charge Exchange Recombination Spectroscopy and X-Ray Imaging Crystal Spectroscopy (15’+5’) | Sang Gon Lee |
| 10:35 | ***Coffee/Tea Break*** |  |
| 11:05 | Polarisation-based suppression of background emission for ITER visible light spectroscopy (15’+5’) | John Howard |
| 11:25 | A space-resolved extreme ultraviolet spectrometer for radial profile measurement of tungsten ions in the EAST tokamak (10’+5’) | Ling Zhang |
| 11:40 |  Impurity study in HL-2A (10’+5’) | C. Dong |
| 11:55 |  Tri-Band High-Resolution Spectrometer for the CXRS Diagnostic System on HL-2A Tokamak (10’+5’) | L. Liu |
| 12:10 | ***Lunch*** |  |
|  | ***Chair: G. Vayakis*** |  |
|  | **HP: *Development of methods of measuring the energy and density distribution of escaping alpha’s (combined with Fusion Product SWG)*** |  |
|  | ***Fusion Products diagnostics*** |  |
| 13:10 | Fusion Product -SWG Report (25’+5) | M. Scholz |
| 13:40 | Feasibility study of partial neutron calibration for neutron flux monitor based on experiences on LHD and JT-60U neutron calibration experiments (10'+5') | Takeo Nishitani |
| 13:55 | Development of 14 MeV neutron detector using capillary plate with liquid scintillator  (10'+5') | Takeo Nishitani |
| 14:10 | Update on JEX DIAG-11: Determination of the runaway electron distribution function by spectral Bremsstrahlung measurements in the gamma-ray energy range  (10’+5’) | Marco Tardocchi |
| 14:25 | Development of Bonner Sphere Spectrometers for Neutron Field Measurements in  EAST (15’+5’) | Tieshuan Fan |
| 14:45 | ***Coffee/Tea Break*** |  |
|  | ***Chair: J. Figueiredo*** |  |
|  | **HP: *Assess impact of microwaves on diagnostic systems*** |  |
| 15:15 | First Wall SWG Report + Update on JEX DIAG-8: Benchmark of Wall Reflections (20'+5') | Suk-Ho Hong |
| 15:45 | JEX DIAG-7: ECH sensors - Distributed monitoring of microwave power density; and JEX DIAG-10: Minimizing Microwave Absorption in Vacuum Windows (10’+5’) | A. Sirinelli (sending report) |
| 16:00 | Imaging Bolometers for ITER (15’+5’) | Byron Peterson |
| 16:20 | Radiation Effect SWG Report (25’+5’) | Masaki Nishiura |
|  | ***Active Spectroscopy diagnostics*** |  |
| 16:50 | New Sodium-beam diagnostic on W7-X , (15’+5’) | Sandor Zoletnik |
| 17:10 | Active Spectroscopy SWG Report + Updates on JEX DIAG-9: Spectral MSE (MSE-LS) Measurements & JEX DIAG-8: Benchmark of Wall Reflections (20’+5’) | Sandor Zoletnik |
| 17:35 | **Adjourn** |  |
| 18:30 | ***Banquet; location TBD*** |  |

**34th Meeting of ITPA Diagnostics TG**

Thursday, 26 April

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|  | ***Chair: E. Yatsuka*** |  |
|  | ***Party Reports; Part I*** |  |
|  | ***Developments in India*** |  |
| 09:00 | IN-DA progress report (25’+5’)  | S. Varshney, S. Danani, S. Kumar, V. Gheesa – (remote) |
|  | ***Developments in Korea***  |  |
| 09:30 | Korea Party Progress Report (25’+5’)  | S.G. Lee |
|  | ***Developments in Australia*** |  |
| 10:00 | Australia Party Progress Report (10’+5’)  | John Howard |
| 10:15 | ***Coffee/Tea Break*** |  |
|  | ***Developments in China*** |  |
| 10:45 | CHINA progress report (25’+5’) | Liqun Hu |
|  | ***Topical Group Activities: Part II*** |  |
|  | ***Chair: D. Brower*** |  |
| 11:15 | Review of Action Items: Part 2 (40'+5')  | Didier Mazon, All |
|  |  |  |
| 12:00 | ***Lunch*** |  |
|  | ***Chair: S.G. Lee*** |  |
|  | ***Party Reports; Part II*** |  |
|  | ***Developments in EU*** |  |
| 13:00 | EU Party Progress Report (25’+5’)  | Andrey Litnovsky |
| 13:30 | EUROfusion Diagnostic Programme in Support of ITER (20’+5’)  | Joao Figueiredo |
|  | ***Developments in Japan*** |  |
| 13:55 | Japan Party Progress Report (25’+5’) | E. Yatsuka |
| 14:25 | ***Coffee/Tea Break*** |  |
|  | ***Topical Group Activities: Part III*** |  |
|  | ***Chair: D. Brower*** |  |
| 14:55 | Update of Topical Group Activities: Part 2 (25'+5') | David Brower, All |
| 15:30 | Potential DIII-D Tour…. |  |
| 17:30 | ***Adjourn - Meeting End*** |  |
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