

**28th IAEA Fusion Energy Conference
(FEC 2020)**

lundi 10 mai 2021 - samedi 15 mai 2021

Nice, France
Thèmes

Monday 10 May 2021**O/1 Opening (08:30-10:15)**

time	[id] title	presenter
08:30	[1511] Opening Address	IAEA REPRESENTATIVE
08:50	[1512] Welcome Address	HOST COUNTRY REPRESENTATIVE

Coffee (10:15-10:45)**OV/1 Overview Magnetic Fusion (10:45-12:30)**

time	[id] title	presenter
10:45	[1335] Preparation for Assembly and Commissioning of ITER	BIGOT, Bernard
11:10	[1080] Overview of JET results for optimising ITER operation	MAILLOUX, Joelle
11:35	[686] DIII-D Research Advancing the Physics Basis for Optimizing the Tokamak Approach to Fusion Energy	FENSTERMACHER, Max
12:00	[1020] Advances in the long-pulse steady-state high beta H-mode scenario with active controls of divertor heat and particle fluxes on EAST	WAN, Baonian

Lunch (12:30-14:00)**OV/2 Overview Magnetic Fusion (14:00-16:10)**

time	[id] title	presenter
14:00	[1038] Operating a full tungsten actively cooled tokamak: overview of WEST first phase of operation	BUCALOSSO, Jerome
14:25	[1046] Progress from ASDEX Upgrade experiments in preparing the physical basis of ITER operation and DEMO scenario development	STROTH, Ulrich
14:50	[1230] Overview of KSTAR	YOON, Si-Woo
15:15	[731] Completion of JT-60SA Construction and Contribution to ITER	KAMADA, Yutaka
15:40	[642] Advances in prediction of tokamak experiments with theory-based models	STAEBLER, Gary

Coffee (16:10-16:40)**OV/3 Overview Magnetic Fusion (16:40-18:45)**

time	[id] title	presenter
16:40	[1168] Progress in the U.S. Inertial Confinement Fusion Program	PATEL, Pravesh
17:05	[1153] Experimental confirmation of efficient island divertor operation and successful neoclassical transport optimization in Wendelstein 7-X	PEDERSEN, Thomas Sunn
17:30	[894] Recent results of Deuterium Experiment on the Large Helical Device and its contribution to the fusion reactor development	OSAKABE, Masaki
17:55	[812] Improving the Stellarator Through Theoretical Understanding	HEGNA, C. C.
18:20	[969] Overview of the TJ-II stellarator research programme towards model validation in fusion plasmas	HIDALGO, Carlos

Tuesday 11 May 2021**EX/1-TH/1 H & CD & Steady-state & Operation (08:30-10:15)**

time	[id] title	presenter
08:30	[859] Doubling the Efficiency of Off-axis Current Drive Using Reactor-relevant 'Top Launch ECCD' on the DIII-D Tokamak	CHEN, Xi
08:50	[989] Integrated scenario development at JET for DT operation and ITER risk mitigation	GARCIA, Jeronimo
09:10	[931] A Low Plasma Current (~ 8 MA) Approach for ITER's Q=10 Goal	DING, Siye
09:30	[1104] Global JINTRAC Simulations for ITER PFPO Scenario Development	MILITELLO ASP, Elina
09:50	[1048] EAST Steady-state Long Pulse H-mode with Core-edge Integration for CFETR	GONG, Xianzu

Coffee (10:15-10:45)**TH/2 Theory and simulation of RMP suppression (10:45-12:30)**

time	[id] title	presenter
10:45	[702] Role of resonant magnetic field penetration in ELM suppression and density pump-out in DIII-D ITER-like plasmas	NAZIKIAN, Raffi
11:05	[1119] A nonlinear simulation study of the effect of toroidal rotation on RMP control of ELMs	CHANDRA, Debasis
11:25	[1022] The simulations on the control of ELM and edge turbulence by RF waves in EAST H-mode discharges	XIA, Tianyang
11:45	[1235] On Effect of n=2 RMP to Edge Pedestal in KSTAR with Nonlinear MHD Simulation	KIM, SangKyeun
12:05	[1172] Toroidal modelling of plasma response to RMP fields for HL-2M	HAO, G.Z.

Lunch (12:30-14:00)**OV/4 Overview Magnetic Fusion (14:00-16:10)**

time	[id] title	presenter
14:00	[1357] Accelerating Magnetically Confined Fusion through Advancements in Edge Turbulence Modeling and its Integration in a Whole Device Model	BHATTACHARJEE, Amitava
14:25	[1095] Overview of the TCV Tokamak Experimental Programme	REIMERDES, Holger
14:50	[1200] Progress of HL-2A Experiment and HL-2M Program	DUAN, Xuru
15:15	[1267] Overview of Recent Experimental results from the ADITYA-U Tokamak	TANNA, RAKESH
15:40	[693] Overview of Coordinated Spherical Tokamak Research in Japan	TAKASE, Yuichi
15:40	[935] Recent NSTX-U Theory, Modeling and Analysis Results	GUTTENFELDER, Walter
15:40	[673] Overview of Globus-M2 spherical tokamak results at the enhanced values of magnetic field and plasma current.	PETROV, Yury
15:40	[915] Experiments on ST40 towards burning plasma conditions	GRYAZNEVICH, Mikhail

Coffee (16:10-16:40)**TECH/1 ITER Technology (16:40-18:45)**

time	[id] title	presenter
16:40	[655] Completion of the First ITER Toroidal Field Coil in Japan	NAKAMOTO, Mio
17:00	[1099] Status of the ITER Neutral Beam Test Facility and the first beam operations with the full-size prototype ion source	SERIANNI, GIANLUIGI
17:00	[1319] Reliability of electrodeposited components for fusion application: A process evaluation of the first kind	JOSHI, Jaydeepkumar
17:20	[787] Progress on performance tests of ITER-gyrotrons and design of dual-frequency gyrotron for ITER staged operation plan	IKEDA, Ryosuke
17:20	[1145] New Developments in Russia of Gyrotrons for Plasma Fusion Installations	DENISOV, Grigory
17:40	[1344] Progress on the ITER DMS design and integration	LUCE, Timothy C.
17:40	[854] Design and Performance of Shattered Pellet Injection Systems for JET and KSTAR Disruption Mitigation Research in Support of ITER	BAYLOR, Larry R.
18:00	[1030] ITER Plasma Control System Final Design and Preparation for First Plasma	SNIPES, Joseph
18:20	[1177] Design Optimization and Safety Assessment of CN HCCB TBS	WANG, Xiaoyu

Wednesday 12 May 2021**IFE/1 Inertial Fusion and IAC/1 Innovative Concepts (08:30-10:15)**

time	[id] title	presenter
08:30	[879] Fast Ignition Laser Fusion Energy Research in Japan	KODAMA, Ryosuke
08:50	[1190] Tripling the energy coupling efficiency from hohlraum to capsule on NIF	PING, Y.
09:10	[816] Core Key Technologies of Multi-Kilojoule Repeatable Laser System	KAWANAKA, Junji
09:30	[1000] Improving implosion energy coupling at the NIF	ZYLSTRA, Alex
09:50	[749] Overview of C-2W: High Temperature, Steady-State Beam-Driven Field-Reversed Configuration Plasmas	GOTA, Hiroshi

Coffee (10:15-10:45)**TH/3 Pedestal / edge / SOL (10:45-12:30)**

time	[id] title	presenter
10:45	[914] Gyrokinetic simulation in realistic divertor geometry reproduces density pump-out and enhanced electron heat confinement in tokamak edge plasma under resonant magnetic perturbations	HAGER, Robert
11:05	[1086] Simulations of turbulence, its suppression and profile evolution across the edge and scrape-off layer of the ASDEX Upgrade tokamak	ZHOLOBENKO, Vladimir
11:25	[971] Simulations of Edge Localized Mode (ELM) Cycles and ELM Control	HOELZL, Matthias
11:45	[983] First nonlinear full-f electromagnetic gyrokinetic continuum simulations of turbulence in tokamak scrape-off layer and pedestal	HAKIM, Ammar
12:05	[1149] Multi-machine SOLPS-ITER comparison of impurity seeded H-mode radiative divertor regimes with metal walls	ROZHANSKY, Vladimir

Lunch (12:30-14:00)**TECH/2 DEMO & Advance Technology (14:00-16:10)**

time	[id] title	presenter
14:00	[802] Progress in design and engineering issues on JA DEMO	SOMEYA, Youji
14:20	[1286] Maintenance of a Fusion Power Plant: The EU Approach	CROFTS, Oliver
14:40	[806] Preparing the Systems Code PROCESS for EU-DEMO Conceptual Design	MORRIS, James
14:40	[666] MIRA: a Multiphysics Approach to Designing a Fusion Power Plant	FRANZA, Fabrizio
15:00	[1013] Mission and Configuration Studies for a U.S. Sustained High-Power Density Tokamak Facility*	MENARD, Jonathan
15:20	[1261] Role of Core Radiation Losses From Plasma and its Impact on ST Reactor Design Parameter Choices	DESHPANDE, Shishir
15:40	[1301] Advanced second generation high temperature superconductor wire for fusion	MOLODYK, Alexander

Coffee (16:10-16:40)**EX/2 H-mode and pedestal (16:40-18:45)**

time	[id] title	presenter
16:40	[951] New understanding of multi-scale/multi-field pedestal turbulence, transport, and gradient behavior during type-I ELMs on the DIII-D tokamak	BARADA, Kshitish Kumar
17:00	[1050] Role of the separatrix density in the pedestal performance in JET-ILW and JET-C	FRASSINETTI, Lorenzo
17:20	[1060] L-H transition studies at JET: H, D, He and T	SOLANO, Emilia R.
17:40	[837] RMP induced H-mode transition during divertor detachment with enhanced edge radiation in deuterium plasmas in LHD	KOBAYASHI, Masahiro
18:00	[741] Developments towards an ELM-free DEMO pedestal radiative cooling scenario in ASDEX Upgrade	KALLENBACH, Arne
18:20	[863] Development of an integrated core-edge scenario using the Super H-mode	WILKS, Theresa

Thursday 13 May 2021**TH/4 Gyrokinetics: energetic particles, magnetic islands, and flux-driven turbulence (08:30-10:15)**

time	[id] title	presenter
08:30	[1103] Turbulence suppression due to energetic particles: From first principles to gyrokinetic simulations and experimental observations	DI SIENA, Alessandro
08:50	[752] Interaction between energetic-particle-driven MHD mode and drift-wave turbulence based on global gyrokinetic simulation	ISHIZAWA, Akihiro
09:10	[1325] Effects of Magnetic Islands on Plasma Confinement and Self-driven Current Generation	WANG, Weixing
09:30	[888] How the narrow Edge—Scrape-Off Layer Interface Self-Organises Turbulence Globally	DIF-PRADALIER, Guilhem
09:50	[758] Spontaneous ITB formation in gyrokinetic flux-driven ITG/TEM turbulence	IMADERA, Kenji

Coffee (10:15-10:45)**TH/5-EX/3 Transport and Confinement (10:45-12:30)**

time	[id] title	presenter
10:45	[683] Strong reversal of simple isotope scaling laws in tokamak edge turbulence	BELLI, Emily Ann
11:05	[1293] Predict First: flux-driven multi-channel integrated modelling over multiple confinement times with the gyrokinetic turbulent transport model QuaLiKiz	CITRIN, Jonathan
11:25	[716] Improved prediction scheme for turbulent transport by combining machine learning and first-principle simulation	NUNAMI, Masanori
11:45	[966] Experimental investigation and gyrokinetic simulations of multi-scale electron heat transport in JET, AUG and TCV	MARIANI, Alberto
12:05	[1094] Exploring the physics of a high-performance H-mode with small ELMs and zero gas puffing in JET-ILW	DE LA LUNA, Elena

Lunch (12:30-14:00)**EX/4 MHD and ELM (14:00-16:10)**

time	[id] title	presenter
14:00	[1037] Experimental Evidence of Magnetic Flux Pumping at ASDEX Upgrade	BURCKHART, Andreas
14:20	[1237] Influence of large magnetic island structures on turbulence and quasi-coherent modes in tokamak plasmas	JIANG, Min
14:40	[928] Quasi-symmetric error field correction in tokamaks	PARK, Jong-Kyu
15:00	[809] Integrated ELM and divertor flux control using RMPs with low input torque in EAST in support of the ITER Research Plan	LOARTE, Alberto
15:00	[1067] First demonstration of full ELM suppression in low input torque plasmas for ITER using n=4 RMP in EAST	SUN, Youwen
15:20	[772] Toward holistic understanding of the ITER-like RMP ELM control on KSTAR	IN, Yongkyoon
15:20	[1269] Edge Fluctuation Dynamics in RMP-Driven ELM Suppression and ELM-free H-mode Plasma in KSTAR	LEE, Jaehyun
15:40	[1167] First Observation of ELM Suppression without Confinement Degradation due to Geodesic Acoustic Mode (GAM)-like mode Triggered by Boron Powder Injection	DIALLO, Ahmed

TECH/3 Divertor and Heating (16:40-18:45)

time	[id] title	presenter
16:40	[918] Accelerated lifetime tests of ITER-like tungsten monoblocks in Magnum-PSI	MORGAN, Thomas
17:00	[649] Materials and Components for the DEMO Divertor	NEU, Rudolf
17:00	[891] Plasma Exhaust and Divertor Designs in Japan and Europe Broader Approach, DEMO Design Activity	ASAKURA, Nobuyuki
17:20	[719] Advanced Multi-Step Brazing (AMSB) for Fabrication of the Divertor Heat Removal Component	TOKITANI, Masayuki
17:20	[1122] An overview of thick tungsten coatings prepared by chemical vapor deposition and manufacture of relevant mockups	CHEN, ZHE
17:40	[1175] 100 seconds negative ion accelerations for JT-60SA negative-ion-based neutral beam injector	KASHIWAGI, Mieko
17:40	[763] Challenges toward Improvement of Deuterium Injection Power in LHD Negative-Ion-Based NBIs	TSUMORI, Katsuyoshi
18:00	[852] WEST Actively Cooled Load Resilient Ion Cyclotron Resonance Heating Results	HILLAIRET, Julien
18:00	[1085] Status of the WEST Travelling Wave Array antenna design and results from the high power mock-up	RAGONA, Riccardo
18:20	[929] Additive Manufacturing of a High Field Side Tokamak Lower Hybrid Current Drive Launcher from GRCop-84	SELTZMAN, Andrew

Friday 14 May 2021**EX/5-TH/6 Disruption (08:30-10:15)**

time	[id] title	presenter
08:30	[1402] [RAPPORTEURED TWIN] Design and Performance of Shattered Pellet Injection Systems for JET and KSTAR Disruption Mitigation Research in Support of ITER	BAYLOR, Larry R.
08:30	[1220] Shattered Pellet Injection experiments at JET in support of the ITER Disruption Mitigation System design	JACHMICH, Stefan
08:50	[1403] [RAPPORTEURED TWIN] Design and Performance of Shattered Pellet Injection Systems for JET and KSTAR Disruption Mitigation Research in Support of ITER	BAYLOR, Larry R.
08:50	[647] A novel path to runaway electron mitigation via deuterium injection and current-driven kink instability	PAZ-SOLDAN, Carlos
08:50	[945] DIII-D and International Research Towards Extrapolating Shattered Pellet Injection Performance to ITER	SHIRAKI, Daisuke
09:10	[1404] [RAPPORTEURED TWIN] Design and Performance of Shattered Pellet Injection Systems for JET and KSTAR Disruption Mitigation Research in Support of ITER	BAYLOR, Larry R.
09:10	[831] Disruption mitigation by symmetric dual injection of shattered pellets in KSTAR	KIM, Jayhyun
09:30	[965] Theory and Modelling activities in support of the ITER Disruption Mitigation System	NARDON, Eric
09:50	[681] Development and experimental qualification of novel disruption prevention techniques on DIII-D	BARR, Jayson

Coffee (10:15-10:45)**TECH/4 Material, PMI, and Neutron Source (10:45-12:30)**

time	[id] title	presenter
10:45	[650] IFMIF/EVEDA Project: Achievements and Outlooks beyond 2020	CARA, Philippe
11:05	[1075] Increasing irradiation and thermo-hydraulic performance of breeding blankets by ODS steel plating	MICHAEL RIETH, Michael
11:05	[1079] Effect of micro-alloying and heat treatment on the neutron irradiation behavior of EUROFER type steels	SIMONDON, Esther
11:25	[727] Status and the challenge of Japanese materials property handbook to facilitate structural design criteria for DEMO in-vessel components	NOZAWA, Takashi
11:45	[773] The U.S. approach to address plasma-material interactions and fusion nuclear science with linear plasma devices	RAPP, Juergen
12:05	[954] A Validated Multi-Physics Modeling Approach to Predicting Erosion, Re-deposition and Gas Retention in Fusion Tokamak Divertors	LASA, Ane

Lunch (12:30-14:00)**EX/6 Transport and Confinement (14:00-16:10)**

time	[id] title	presenter
14:00	[1078] Isotope identity experiments in JET with ITER-like wall	MAGGI, Costanza
14:20	[692] Transition between isotope-mixing and non-mixing states in hydrogen-deuterium mixture plasmas in the Large Helical Device	IDA, Katsumi
14:40	[1364] Confinement in electron heated plasmas in Wendelstein 7-X and ASDEX Upgrade; the necessity to control turbulent transport	BEURSKENS, Marcus Nicolaas Arnoldus
15:00	[781] Performance Integration of High Temperature Plasmas in the LHD deuterium operation	TAKAHASHI, Hiromi
15:20	[661] Evolution of the electric potential and turbulence in OH and ECRH low-density plasmas in the T-10 tokamak	MELNIKOV, Alexander
15:40	[857] Diverted negative triangularity plasmas on DIII-D: the benefit of High confinement without the liability of an edge pedestal	MARINONI, Alessandro
15:40	[982] The Route to High Performance, DEMO relevant, Negative Triangularity Tokamak Operation on TCV	PORTE, L.

Coffee (16:10-16:40)**EX/7 Divertor and SOL (16:40-18:45)**

time	[id] title	presenter
16:40	[892] Achievements of Actively Controlled Divertor Detachment Compatible with Sustained High Confinement Core in DIII-D and EAST	WANG, Liang
17:00	[923] Experimental impurity concentrations required to reach detachment in AUG and JET	HENDERSON, Stuart
17:20	[1156] Control of the X-point radiator in fully-detached ASDEX Upgrade H-mode plasmas	BERNERT, Matthias
17:40	[998] Overview of the results from the divertor experiments at Wendelstein 7-X and their implications for steady state operation	JAKUBOWSKI, Marcin
18:00	[995] Advances in understanding power exhaust physics with the new, baffled TCV divertor	THEILER, Christian
18:20	[927] Synergy Between Divertor Geometry and Drifts on Divertor Power Dissipation in the DIII-D Small Angle Slot Divertor	WANG, Huiqian

Saturday 15 May 2021**TH/7 Disruptions, advances in RF modeling, and stellarators (08:30-10:15)**

time	[id] title	presenter
08:30	[962] Implementation of Artificial Intelligence (AI)/Deep Learning Disruption Predictor into a Plasma Control System	TANG, William
08:30	[1263] A Machine Learning Approach for Data Visualization and Parameter Selection for Efficient Disruption Prediction in Tokamaks	BANDYOPADHYAY, Indranil
08:30	[1120] In-depth Research on the Interpretable Disruption Predictor in HL-2A	YANG, Zongyu
08:50	[1004] Towards integrated RF actuator modeling: whole device scale RF fullwave simulation including hot core and 3D SOL/antenna regions	SHIRAIWA, Syun'ichi
09:10	[1285] Energy Deposition and Melt Deformation on the ITER First Wall due to Disruptions and Vertical Displacement Events	COBURN, Jonathan
09:30	[798] KNOSOS, a fast neoclassical code for three-dimensional magnetic configurations	VELASCO GARASA, Jose Luis
09:50	[788] Supercritical stability of the Large Helical Device plasmas due to the kinetic thermal ion effects	SATO, Masahiko

Coffee (10:15-10:45)**EX/8 Energetic Particles and PD/1 (10:45-12:30)**

time	[id] title	presenter
10:45	[1098] Scenario preparation for the observation of alpha-driven instabilities and transport of alpha particles in JET DT plasmas	DUMONT, Remi
11:05	[933] Improving Fast-ion Confinement and Performance by Reducing Alfvén Eigenmodes in the qmin>2, Steady-State Scenario	COLLINS, Cami
11:25	[688] A Comprehensive Study of Energetic Particle Transport Due to Energetic Particle Driven MHD Instabilities in LHD Deuterium Plasmas	OGAWA, Kunihiro
11:45	[1532] Multi-Machine Determination of SOL-to-Core Multi-Z Impurity Transport in Advanced Confinement Regimes	HOWARD, Nathan
12:05	[1533] Manufacturing completion of the first ITER Vacuum Vessel Sector	KIM, Hyunsoo

Lunch (12:30-14:00)**S/1 Summary (14:00-16:00)**

time	[id] title	presenter
14:00	[1503] The Nuclear Fusion Prize	NUCLEAR FUSION JOURNAL REPRESENTATIVE
14:20	[1504] Summary EX-1	ZARNSTORFF, Michael
14:50	[1505] Summary EX-2	SAIBENE, Gabriella
15:00	[1506] Summary TH	KISHIMOTO, Yasuaki

Coffee (16:00-16:30)**S/2 Summary (16:30-18:00)**

time	[id] title	presenter
16:30	[1507] Summary IFE	LE PAPE, Sebastien
17:00	[1508] Summary TECH	GORLEY, Mike
17:30	[1509] Closing Address	IAEA REPRESENTATIVE
17:50	[1510] Conference Closing	HOST COUNTRY REPRESENTATIVE