

KSTAR Conference 2018

February 21st – 23rd , 2018

Muju Deogyusan Resort, Jeonbuk, Korea



- Program Committee:

Yeong-Kook Oh	(KSTAR Research Center, NFRI)
Si-Woo Yoon	(KSTAR Research Center, NFRI)
Jong-Gu Kwak	(KSTAR Research Center, NFRI)
Yong Chu	(KSTAR Research Center, NFRI)
Seungyon Cho	(ITER Korea, NFRI)
Suk-Ho Hong	(Advanced Tech. Res. Center. NFRI)
Sumin Yi	(Advanced Tech. Res. Center. NFRI)
Young-Chul Ghim	(Nuclear & Quantum Eng., KAIST)
Gunsu S. Yun	(Dept. Physics, POSTECH)

- Conference Secretary:

Mr. Seok-In Yoon (siyoon@nfri.re.kr), NFRI

Technical Program Overview

- Carnival Culture Palace B1F , Muju Resort

Feb. 21 st , 2018 (Wednesday)			
10:20~10:40	Opening & Welcome Address Ensemble Hall		
10:40~12:30	Plenary Session 1 - Ensemble Hall		
12:30~13:40	Lunch Break (SELF HOSTED)		
13:40~15:40	Poster Session 1 Lobby (Hall-1)		Satellite 1A (Sonata Hall) Satellite 1B (Waltz Hall)
	Coffee Break		
16:00~18:00	Parallel Oral 1A < Overviews> Ensemble Hall	Parallel Oral 1B < Disruption> Symphony Hall	Parallel Oral 1C < Fusion Engineering> Concerto Hall
18:30~	Welcome Dinner Ziletal Hall (Hotel Tirol B2F)		
Feb. 22 nd , 2018 (Thursday)			
9:00~10:10	Plenary Session 2 - Ensemble Hall		
	Coffee Break		
10:30~12:30	Parallel Oral 2A < Scenario & Modeling> Ensemble Hall	Parallel Oral 2B < KSTAR - PPPL Collaboration 1> Symphony Hall	Parallel Oral 2C < Plasma Wall Interaction> Concerto Hall
12:30~13:40	Lunch Break (SELF HOSTED)		
13:40~15:40	Poster Session 2 Lobby (Hall-1)		Satellite 2A (Sonata Hall) Satellite 2B (Waltz Hall)
	Coffee Break		
16:00~18:20	Parallel Oral 3A < 3D Physics > Ensemble Hall	Parallel Oral 3B < Korea - UK Fusion CDT Collaboration > Symphony Hall	Parallel Oral 3C <Young Scientists> Concerto Hall
Feb. 23 rd , 2018 (Friday)			
9:00~10:10	Plenary Session 3 - Ensemble Hall		
	Coffee Break		
10:30~12:30	Parallel Oral 4A < Transport & Turbulence> Ensemble Hall	Parallel Oral 4B < KSTAR - PPPL Collaboration 2> Symphony Hall	
12:30~13:30	Lunch Break (SELF HOSTED)		
13:30~15:30	Plenary Session 4 & Closing Address - Ensemble Hall		

Program of the KSTAR Conference 2017

February 21st, Wednesday

9:30-10:20	Registration & Announcement
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Opening		Ensemble Hall
10:20	Opening Remark	Suk Jae Yoo (NFRI)
10:30	Welcome Address	(MSIT)

Plenary Session 1		Ensemble Hall
		Chair : Hyeon K. Park (UNIST/NFRI)
10:40	Highlights of the 2017 KSTAR campaign and future prospects toward ITER and K-DEMO	Yeong-Kook Oh (NFRI)
11:15	EUROfusion programme including the status of JET research and future plan (2018-2020)	Hyun-Tae KIM (EURO Fusion)
11:50	Robust ELM control and 3-D Physics in KSTAR	Yongkyoon In (NFRI)

12:30-13:40	Lunch Break (SELF HOSTED)
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13:40-15:40	Poster Session 1	Lobby (Hall-1)
	✂ Poster attachment from 13:00 to 18:00 (List of presentations is on page 10)	Chair : Gun-Su Yun (POSTEC) Yong-su Na (SNU)

15:40-16:00	Coffee Break
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Parallel Oral 1A (Overviews)		Ensemble Hall
		Chair : Won-ho Choe (KAIST)
16:00	Experimental observation in KSTAR stationary high poloidal beta discharges, including an ELM-free operation with EHOs	YoungMu Jeon (NFRI)
16:20	Advancement of MHD and Turbulence Physics via Visualization	Gun-su Yun (POSTECH)
16:40	Exploration of Hybrid Operation Scenarios in KSTAR	Yong-su Na (SNU)
17:00	Summary and Plan of Heating and Current Drive toward High Performance KSTAR Plasmas	Son-Jong Wang (NFRI)

17:20	Status and Plan for the KSTAR Diagnostics System'	Yong-Un Nam (NFRI)
17:40	Brief summary of Plasma-Surface Interaction/Divertor SOL research activity in NFRI	Suk-Ho Hong (NFRI)

**Parallel Oral 1B
(Disruption)**

Symphony Hall
Chair : Steve Sabbagh (Columbia Univ.)

16:00 (inv.)	Accelerated Advances in Big Data Machine Learning for Applications in Fusion Energy Sciences	William M. Tang (PPPL)
16:30 (inv.)	Shattered Pellet Injection for Disruption Mitigation in KSTAR	Larry Baylor (ORNL)
17:00	Fast Time Response Electromagnetic Particle Injection System for Disruption Mitigation	Roger Raman (Univ. of Washington)
17:20	Disruption Prediction via Deep Learning at the Largest Scale	Julian Kates-Harbeck (Harvard Univ.)
17:40	Evolution of locked mode under the existence of non-axisymmetric fields in KSTAR	Jayhyun Kim (NFRI)

**Parallel Oral 1C
(Fusion Engineering)**

Concerto Hall
Chair : Hyeon Gon Lee (NFRI)

16:00 (inv.)	Optimal Radial Build of a Low-Aspect-Ratio Tokamak Fusion System	Bong Guen Hong (Chonbuk Univ.)
16:30 (inv.)	ITER Procurement Status in Japan - Technological Challenges in the Realization of Fusion Energy	Makoto Sugimoto (QST)
17:00	High Temperature Superconductor Technology for Next-Generation Fusion Magnet	Seungyong Hahn (SNU)
17:20	Momentum preserved node for fusion magnet cryogenic network analysis and its implications	Sangjun Oh (NFRI)
17:40	Comparisons between Nb3Sn CICC Cable Designs and their Correspondence to Current Sharing Temperature	Soun Pil Kwon (NFRI)

18:30 –

Welcome Dinner (HOSTED BY NFRI)

Ziletal Hall
(Hotel Tirol B2F)

Satellite Meeting 1A

Sonata Hall

NFRI-NRCKI Fusion Collaboration Meeting(14:00-15:00)

Satellite Meeting 1B

Waltz Hall

TBD

• 13:40-15:40

February 22nd, Thursday

8:30-9:00	Registration & Announcement
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Plenary Session 2	Ensemble Hall Chair : Katsumi Ida (NIFS)
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09:00	Recent progress and challenges in RMP ELM suppression in DIII-	Raffi Nazikian (PPPL)
09:35	Drift kinetic theory of the neoclassical tearing mode close to threshold	Howard Wilson (York Univ.)

10:10-10:30	Coffee Break
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Parallel Oral 2A (Scenario & Modeling)	Ensemble Hall Chair : Wolfgang Suttrop (IPP)
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10:30 (inv.)	Long Pulse Control Enhancements on KSTAR	Nicholas Eidietis (GA)
11:00 (inv.)	Overview of KSTAR MHD and Energetic Particle Physics research activities in 2017	Byoung-Ho Park (NFRI)
11:30	Differences between main-ion and impurity toroidal rotation, temperature and density across the L- to H-mode transition in DIII-D	Shaun Haskey (PPPL)
11:50	Nonlinear Cyclotron Resonance of Relativistic Electron for Non-Integer Harmonic ECH	Min-Gu Yoo (SNU)
12:10	Model-based Control of the Current Profile Dynamics in KSTAR	Eugenio Schuster (Lehigh Univ.)

Parallel Oral 2B (KSTAR-PPPL Collaboration 1)	Symphony Hall Chair : Si-Woo Yoon (NFRI)
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10:30 (inv.)	Kinetic Equilibrium Reconstruction and Stability Analyses Supporting Disruption Prediction on KSTAR	Steve a. Sabbagh (Columbia Univ.)
11:00 (inv.)	Vertical stabilization on KSTAR	Dennis Mueller (PPPL)
11:30	Progress on 3D field optimization and opportunities in KSTAR	Raffi Nazikian (PPPL) (Jong-Kyu Park)
11:50	Interpretive and predictive transport analyses of high performance KSTAR plasmas supporting scenario development	Jae Heon Ahn (Columbia Univ.)
12:10	Real-time forecasting and feedback control algorithm design enabled by TRANSP	Mark Boyer (PPPL)

Parallel Oral 2C (Plasma Wall Interaction)	Concerto Hall Chair : Richard Pitts (ITER IO)
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10:30 (inv.)	Experiments on the T-10 tokamak with tungsten - lithium limiters – the base of future experimental programs on	Alexander Romannikov (NRCKI)
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	the T-15 MD tokamak.	
11:00 (inv.)	The Role of Wall Probes and Ion Analysis in in Material Migration Studies in Tokamaks	Marek Rubel (KTH)
11:30	First Mirror Test in JET for ITER: results with metal-form wall	Sunwoo Moon (KTH)
11:50	Reduced Activation W-based Alloy and Composites for Future Fusion Applications	WASEEM OWAIS AHMED (KAIST)
12:10	Roles of Pellet Injection System in KSTAR	SooHwan Park (NFRI)

**12:30-
13:40**

Lunch Break (SELF HOSTED)

13:40-
15:40

Poster Session 2

***✂ Poster attachment from 13:00 to 18:00
(List of presentations is on page 12)***

Lobby (Hall-1)

***Chair : Jong-Gu Kwak (NFRI)
Suk-Ho Hong (NFRI)***

15:40-
16:00

Coffee Break

***Parallel Oral 3A
(3D Physics)***

***Ensemble Hall
Chair : Raffi Nazikian (PPPL)***

16:00 (inv.)	Sawteeth, the Sun, and KSTAR	Linda E. Sugiyama (MIT)
16:30 (inv.)	Suppressing Edge Localised Modes by Resonant Magnetic Perturbations - Results from ASDEX Upgrade and prospects for joint physics experiments	Wolfgang Suttrop (IPP)
17:00	Changes in turbulent fluctuations and bifurcation of perpendicular flow at the onset of ELM-crash suppression	Jaehyun Lee (NFRI)
17:20	H-mode power threshold and rotation studies under resonant and non-resonant RMPs in KSTAR	Won-Ha Ko (NFRI)
17:40	New branch of continuum mode in the presence of the magnetic island in Cylindrical Plasma	Min-Ho Woo (NFRI)
18:00	A statistical analysis of KSTAR fast ion losses	Sangil Lee (NFRI)

***Parallel Oral 3B
(Korea-UK Fusion CDT Collaboration)***

***Symphony Hall
Chair : Oh-jin Kwon (Deagu Univ.)***

16:00 (inv.)	HERMES: Progress towards self-consistent turbulence and transport modelling	Ben Dudson (York Univ.)
16:30 (inv.)	Plasma diagnostics, real time data acquisition and boundary plasmas	Ray Sharples (Durham Univ.)
17:00	Invasive and non-invasive plasma diagnostics for edge and divertor regimes	Kirty McKay (Liverpool Univ.)

17:20	Edge plasma and plasma-surface interaction research at the University of Liverpool	Mark Bowden (Liverpool Univ.)
17:40	Overview of materials research in the Fusion CDT	ED Pickering (Manchester Univ.)
18:00	Core tokamak plasma theory in the Fusion CDT	Howard Wilson (York Univ.)

***Parallel Oral 3C
(Young Scientists)***

***Concerto Hall
Chair : Young-chul Ghim (KAIST)***

16:00	Long-term Collisionless Decay of Zonal Flows in Tokamaks by Resonant Magnetic Perturbations	Gyung Jin Choi (SNU)
16:15	Fast ion driven drift wave instabilities in RS plasmas	Byungjun Kang (SNU)
16:30	Bayesian modelling and inference of multiple diagnostic systems at Wendelstein 7-X in the Minerva framework	Sehyun Kwak (KAIST)
16:45	A Scheduling Methodology for Large-Scale R&D projects using TRL and Critical Chain	Jinwoo Park (SNU)
17:00	Noninvasive Diagnosis of Higher-Order Mode Patterns of Gyrotron with Stabilized Electro-Optic Imaging system	Ingeun Lee (UNIST)
17:15	Experimental observations of divertor detachment in KSTAR L-mode plasmas	Jae sun Park (KAIST)
17:30	Dynamic changes of radio frequency emission spectra at the onset of pedestal collapse in KSTAR H-mode plasma	Minho Kim (POSTECH)
17:45	Transient heat flux measurements by electric probes in KSTAR and DiPS-2	Min-Keun Bae (Hanyang Univ.)

Satellite Meeting 2A

Sonata Hall

KSTAR-PPPL collaboration meeting (14:00-15:00)

Satellite Meeting 2B

Waltz Hall

TBD

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February 23rd, Friday

Plenary Session 3

Ensemble Hall

Chair : William M. Tang (PPPL)

9:00	Gyrokinetic understanding of the fundamental L-H bifurcation physics: How to approach it in KSTAR fo	Choongseok Chang (PPPL)
9:35	Initial results of LHD Deuterium Experiments	Masaki Osakabe (NIFS)

Parallel Oral 4A

(Transport & Turbluence)

Ensemble Hall

Chair : Ben Dudson (York Univ.)

10:30 (inv.)	Eulerian approach to bounce-transit and drift resonance with magnetic drifts in tokamaks	Kerchung C. Shaing (NCK Univ.)
11:00 (inv.)	Bifurcation physics of magnetic islands and stochasticity explored by heat pulse propagation technique in toroidal plasmas	Katsumi Ida (NIFS)
11:30	Role of edge poloidal density asymmetry in tokamak connement	Ahmet Y. Aydemir (NFRI)
11:50	Two Common Features of Black Aurora and Edge Localized Mode in Tokamak	Kwan Chul Lee (NFRI)
12:10	Observation of multi-channel non-local transport in J-TEXT plasmas	Yuejiang Shi (SNU)

Parallel Oral 4B

(KSTAR-PPPL Collaboration 2)

Symphony Hall

Chair : Yongkyoon In (NFRI)

10:30 (inv.)	Research plan in support of the helicon wave modeling on KSTAR	Nicola Bertelli (PPPL)
11:00 (inv.)	Status and Plans for KSTAR Background Polychromator	Steven Scott (PPPL)
11:30	Powder Droppers as a Versatile Tool for Wall Conditioning and Impurity Delivery	Erik P. Gilson (PPPL)
11:50	2D full-wave simulation of HHFW energy loss in the scrape-off layer of NSTX	Eun-Hwa Kim (PPPL)
12:10	PPPL Real-time Advances Applicable to KSTAR	Keith Erickson (PPPL)

**12:30-
13:30**

Lunch Break (SELF HOSTED)

Plenary Session 4 & Closing

Ensemble Hall

Chair : Myeun Kwon (NFRI)

13:30	Status of ITER: construction, research plan and current R&D priorities	Richard Pitts (ITER IO)
14:05	Current Status of the KODA Procurement Activities	Hyeon Gon Lee (NFRI)

14:40	The Roadmap for Near Term Implementation of Korean Fusion Demonstration Reactor, K-DEMO	Keeman Kim (NFRI)
15:20	Closing Address	

※Guidance for Oral/Plenary Speakers.

- Official language: English
- File format: photoshop (.pdf), powerpoint (.ppt, pptx)
- If you want to change your presentation file, Please bring latest version in USB before the session
- Recommended presentation time:
 - Plenary Talk : 35min.= 30min.(presentation) + 5min.(discussion)
 - Invited Oral : 30min.= 25min.(presentation) + 5min.(discussion)
 - Oral : 20min.= 15min.(presentation) + 5min.(discussion)

POSTER PRESENTATION

Poster Session 1 (Feb. 21 st 13:40-15:40)		Lobby (Hall-1)	
[Notice] Poster Attachment(before 13:00) & Detachment(18:00)			
No.	Name	Affiliation	Title
P1-1	Woochang Lee	NFRI	Preliminary study of the quasi-coherent mode effect on plasma transport in ECH plasmas
P1-2	Daeho Kwon	KAIST	Analysis of Langmuir probe data using artificial neural network
P1-3	Dongcheol Seo	NFRI	Status of Survey IRTV system in 2017 campaign for KSTAR
P1-4	Dongjae Lee	UNIST	Collective Thomson scattering system and the modified microwave imaging reflectometer in KSTAR
P1-5	Hisamichi Funaba	NIFS	Development of Fast-signal Processing for Thomson Scattering Measurement on LHD
P1-6	Ichihiro Yamada	NIFS	Application of the Neural Network Technique in the LHD Thomson Scattering System
P1-7	Jinseok Ko	NFRI	Sensitivity of bandpass filtering on motional Stark effect spectra
P1-8	Jong-ha Lee	NFRI	Status and Upgrade plan for KSTAR Thomson scattering diagnostic
P1-9	June-Woo Juhn	NFRI	Fringe Correction Technique for a Single-channel Tangential Two-Color Interferometer in KSTAR
P1-10	Jw yoo	NFRI	Preliminary design of fast-ion D-alpha (FIDA) diagnostics in KSTAR
P1-11	Kil-Byoung Chai	KAERI	Development of 6.75 nm EUV movie camera for imaging spectral lines from highly charged tungsten ions
P1-12	Kim Hajin	NFRI	Development plan of vibration and position check system for Thomson scattering collection optics
P1-13	Kim Young-Gi	SNU	Optimization of the polychromator for Thomson scattering system on VEST
P1-14	K.M. Kim	NFRI	KSTAR Neutron Activation Analysis System Using Compton Suppression Gamma-ray Spectrometer
P1-15	Kyu-dong Lee	NFRI	Comparative analyses of electron temperature measurements by ECE and Thomson scattering at KSTAR
P1-16	KyungJun Kim	POSTECH	Automated post-processing of ECE image data based on the threshold filtering method
P1-17	Namjun Kang	NFRI	Spatial resolution optic designs for KSTAR visible spectroscopy system
P1-18	Ondrej Bogar	IPP ASCR	Microwave reflectometry for electron density profile studies on the COMPASS tokamak
P1-19	Seong Heon Seo	NFRI	Plasma density profile measurements by using reflectometer during mode transition
P1-20	Seungtae Oh	NFRI	IRVB Weight Matrix using Monte-Carlo ray-tracing
P1-21	Varavin Mykyta	IPP ASCR	Microwave interferometry on tokamak COMPASS

P1-22	YoungHwa An	NFRI	Status of VUV spectrometers for high Z impurity study in KSTAR
P1-23	Youngseok Lee	NFRI	A Status of Neutron Diagnostics at the KSTAR Tokamak
P1-24	Byun Cheol-sik	SNU	Identification and control of the safety factor profile using neural network in the ITER hybrid scen
P1-25	Jeongwon Lee	NFRI	Development of locked mode detection scheme using lock mode coils in KSTAR
P1-26	Gnan Kim	POSTECH	Disruption precursors in KSTAR
P1-27	Gyuenghyuen Choe	POSTECH	Slow sawtooth crash driven by electron cyclotron current drive in KSTAR plasma
P1-28	S.H. Hahn	NFRI	Experimental measurements of vertical stability metrics in KSTAR
P1-29	Hosun Lee	Kyung Hee Univ.	CARBON IMPURITY TRANSPORT IN ECR CHAMBER: EROSION AND DEPOSITION OF a-C:H THIIN LAYERS
P1-30	H.S. Kim	NFRI	Evaluation of EFIT Equilibrium Reconstruction Accuracy in KSTAR
P1-31	Hyunsun Han	NFRI	Slow Rotating Mode Identification in Real-time using Magnetic Probes on Passive Stabilizer in KSTAR
P1-32	Jaemin Seo	SNU	Alpha Channeling Effect via TAE and CAE in ITER
P1-33	Jeong-hun Yang	SNU	Study of MHD Activity during Fast Current Rise of VEST Ohmic Discharge
P1-34	Jinil Chung	NFRI	Characteristics of internal transport barriers in KSTAR
P1-35	JisungKang	NFRI	Investigations of KSTAR high poloidal beta discharges energy confinement characteristics
P1-36	Jo JongGab	SNU	Coupling study of Lower Hybrid Fast Wave in VEST
P1-37	Juhyeok Jang	KAIST	Investigation of ELM suppression and internal transport barrier formation by krypton injection in KS
P1-38	Juhyung Kim	NFRI	Detailed analysis of Edge Pedstal Collapse Simulations
P1-39	Jungkyun Park	SNU	Statistical Analysis of pedestal structure in KSTAR H-modes using Neural Network
P1-40	Jun-Gyo BAK	NFRI	Experimental investigation on plasma disruptions due to the vertical displacement events in the KSTA
P1-41	Kiyong Lee	NFRI	Efficient production of high temperature and density plasmas by using Field Reversed Configuration (
P1-42	S.A. Sabbagh	Columbia U. / PPPL	Progress on Disruption Event Characterization and Forecasting Capabilities and Active Mode Control C
P1-43	S.A. Sabbagh	Columbia U. / PPPL	Observation of the Generalized Neoclassical Toroidal Viscosity Offset Rotation Profile in KSTAR
P1-44	Semin Joung	KAIST	Real-time reconstruction of plasma equilibria with neural network accelerated model on KSTAR
P1-45	Taesuk OH	KAIST	Investigation of density fluctuations during ELM suppressions in KSTAR with 2D beam emission spectro
P1-46	YoungMu Jeon	NFRI	Experimental observations of plasma shape effect on RMP-ELM coupling, and its optimization to KSTAR
P1-47	Byunghoon Min	Soongsil Univ.	Bifurcation of Thermal Transport by Zonal Vorticity Gradient

P1-48	Chan-Yong AN	Soongsil Univ.	Role of the zonal-flow curvature on the thermal transport
P1-49	Gunyoung Park	NFRI	MHD plasma response modeling for the understanding of the underlying physics mechanism of ELM-crash-
P1-50	Helen H. Kaang	NFRI	Electromagnetic effect on the intrinsic rotation generation with the parity change of global ITG mo
P1-51	InwooSong	KAIST	Spectral modeling for high-Z impurity transport in steady-state fusion plasmas
P1-52	JaeChun Seol	NFRI	Enhance neoclassical particle transport by RMPs
P1-53	Jaewook Kim	KAIST	Estimation of magnetic Kubo number during pedestal collapse in BOUT++ simulation
P1-54	Kyusik Han	UST-NFRI	Equilibrium Calculation using the deal.II Finite Element Library with Diamagnetic Current Modelling
P1-55	C.Y. Lee	SNU	Development of Integrated Tokamak Simulator for KSTAR
P1-56	Lei Qi	NFRI	Bounce-averaged gyrokinetic simulations of trapped electron turbulence in elongated tokamak plasmas
P1-57	Min Uk Lee	POSTECH	Kinetic Study of Electrostatic Ion Cyclotron Harmonic Waves in Non-uniform Electric Field
P1-58	Mykhaylenko Volodymyr	Pusan National Univ.	The non-modal theory of the modified Simon-Hoh instability with sheared Hall current.
P1-59	Raghvendra Singh	NFRI	Weak zonal flow in marginally ballooning stable pedestal plasmas: a scenario for stationary I-mode
P1-60	SangKyeun Kim	SNU	Study on Effect of RMP to Behavior of PBM in KSTAR with JOEKE
P1-61	Sumin Yi	NFRI	Effects of parallel flow fluctuation on zonal flow in tokamak plasmas
P1-62	Thanh Tinh Tran	NFRI	Effects of Parallel Flow Fluctuation on Zonal Flow Generation: A Numerical Study
P1-63	V.S.Mikhailenko	Pusan National Univ.	The non-modal theory of the ion cyclotron turbulence of the combined plasma sheared flow
P1-64	Minwoo Kim	UNIST	Introducing full-MHD M3D-C1 code for validity of the reduced-MHD codes in study of the ELM physics

Poster Session 2
(Feb. 22nd 13:40-15:40)

Lobby (Hall-1)

[Notice] Poster Attachment(before 13:00) & Detachment(18:00)

No.	Name	Affiliation	Title
P2-1	Byungkeun Na	NFRI	Measurement of the beam fraction in KSTAR NBI1 and its improvement
P2-2	Hyunho Wi	NFRI	Preliminary RF design of compact ICRH antenna with conjugate T matching for KSTAR plasmas
P2-3	Jeehyun Kim	NFRI	Test of 0.5 MW prototype PAM antenna for KSTAR LHCD system
P2-4	Jin Hyun Jeong	NFRI	Development status of High Voltage Power Supply for new NBI system
P2-5	Mi Joung	NFRI	Development status and plan of 6MW ECH system on KSTAR
P2-6	Jinsub Kim	NFRI	Electromagnetic Quench Detection for the KSTAR PF coils Using Inductive Voltage Numerical Compensati
P2-7	Giil Kwon	NFRI	Plan of KSTAR real-time system upgrade
P2-8	Heesoo Kim	NFRI	Radiation Safety of KSTAR 2017 Campaign
P2-9	Hidemasa Ozeki	QST	The First Fit-up Test Result of Weld Bevels on Large Coil Case Structures of Toroidal Field Coil for
P2-10	Jaesic Hong	NFRI	Operation results of KSTAR Integrated Control System on the 2017 KSTAR Campaign
P2-11	H. Yonekawa	NFRI	Backup Signal Processing System Development for the KSTAR QDS
P2-12	Jin-Seop Park	NFRI	IMPROVEMENT KSTAR NETWORK for WAN Collaboration with Science DMZ
P2-13	Jong-Kook, Jin	NFRI	Development and Operation of IVCC Power Supply(IPS) in KSTAR
P2-14	Hyun Myung Lee	NFRI	An overview of ASDEX pressure gauge system in the KSTAR
P2-15	LIM, YEGEON	KAIST	Construction of magnetic X-point simulator system, MAXIMUS, and investigation of its plasma properti
P2-16	M V SWATI	UNIST	Design of a Sheet Beam Electron Gun for 0.3 THz Travelling-Wave Tube Amplifier
P2-17	Myungkyu Kim	NFRI	The Control Program for the KSTAR Fast Ion Loss Measurement using CCD Camera.
P2-18	Nam-Yong Jeong	NFRI	Status of VV Hot Water Baking System Complement
P2-19	Seong-Lok, Hong	NFRI	The PSCAD/EMTDC modelling of KSTAR power systems for power quality analysis
P2-20	Taegu Lee	NFRI	Improve KSTAR experiment data accessibility and reduce data storing time
P2-21	Taehyun Tak	NFRI	Development of an integrated information Web service of KSTAR
P2-22	W. J. Byeon	Dankook Univ.	Study of Hydrogen Permeation in Hastelloy

P2-23	Yeon Geol, JUNG	NFRI	The safety management of the KSTAR plasma experimental room
P2-24	YeonJung KIM	NFRI	The Features of KSTAR Timing System
P2-25	Young Ok Kim	NFRI	Measurement of the pre-compression of the KSTAR CS magnet structure
P2-26	Mun Seok Choe	UNIST	A Study of Millimeter-wave Fast Switching System using Inductive Coupled Plasma (ICP)
P2-27	SeongHee HONG	Kyung Hee Univ.	Neutronics Analysis of Tritium Production Performance in a Fusion-Fission Hybrid System
P2-28	SeongHee Park	Kyung Hee Univ.	Dose Rate Estimation in Fusion System
P2-29	Ashwini Sawant	UNIST	Time-Dependent Code Development for Gyrotron Design
P2-30	CHOI DAEJUN	NFRI	Summary of KSTAR NBI-1 Operation in 2017
P2-31	Gaurav Singh Baghel	UNIST	Possibility of Dual-frequency Gyrotron for K-DEMO Prototype
P2-32	Jong-Su Kim	NFRI	Status and Development plan of NBI2 Control System
P2-33	Park hyun taek	NFRI	The Operation Results of the KSTAR NBI-1 Beam Line System in 2017
P2-34	Rhee, In hyuk	NFRI	Operation Results of 105/140 GHz ECH System
P2-35	Sangwook Jung	NFRI	Study of electromagnetic field characteristics of RF ion source
P2-36	Tae-Seong Kim	KAERI	ion species mix measurements of KSTAR NBI ion source
P2-37	Wook Cho	NFRI	Development of KSTAR NBI2 Ion Sources
P2-38	Yeongsu Jung	NFRI	Lessons Learned from Application of INB Order Requirements
P2-39	Hyun Kook Shin	NFRI	The Performance Evaluation of TFPS Master Control Sysytem by Factory Acceptance Test for ITER
P2-40	Jaemin Kim	NFRI	Design and Integration of ITER Diagnostic Upper Port #18
P2-41	Ji Young Jung	NFRI	Transport Process of ITER Project
P2-42	J.S. oh	NFRI	Short-Circuit Test of ITER VS1 AC/DC Converter
P2-43	Kim BongChul	NFRI	The Factory Acceptance Test of the first VS1 AC/DC Converter
P2-44	Mun Seong Cheon	NFRI	Preliminary design of ITER neutron activation system port components
P2-45	Sawoong KIM	NFRI	Development of Machining Techniques for ITER Blanket Shield Block
P2-46	Hyun-goo Kang	NFRI	Performance comparison of metal hydride bed depending on heater design
P2-47	Sei-Hun Yun	NFRI	Speculation on the Process Gas Analysis of ITER Tritium SDS
P2-48	Bin Ahn	KAIST	Preliminary results of electron temperature measurements in low density Helium and Argon plasmas usi

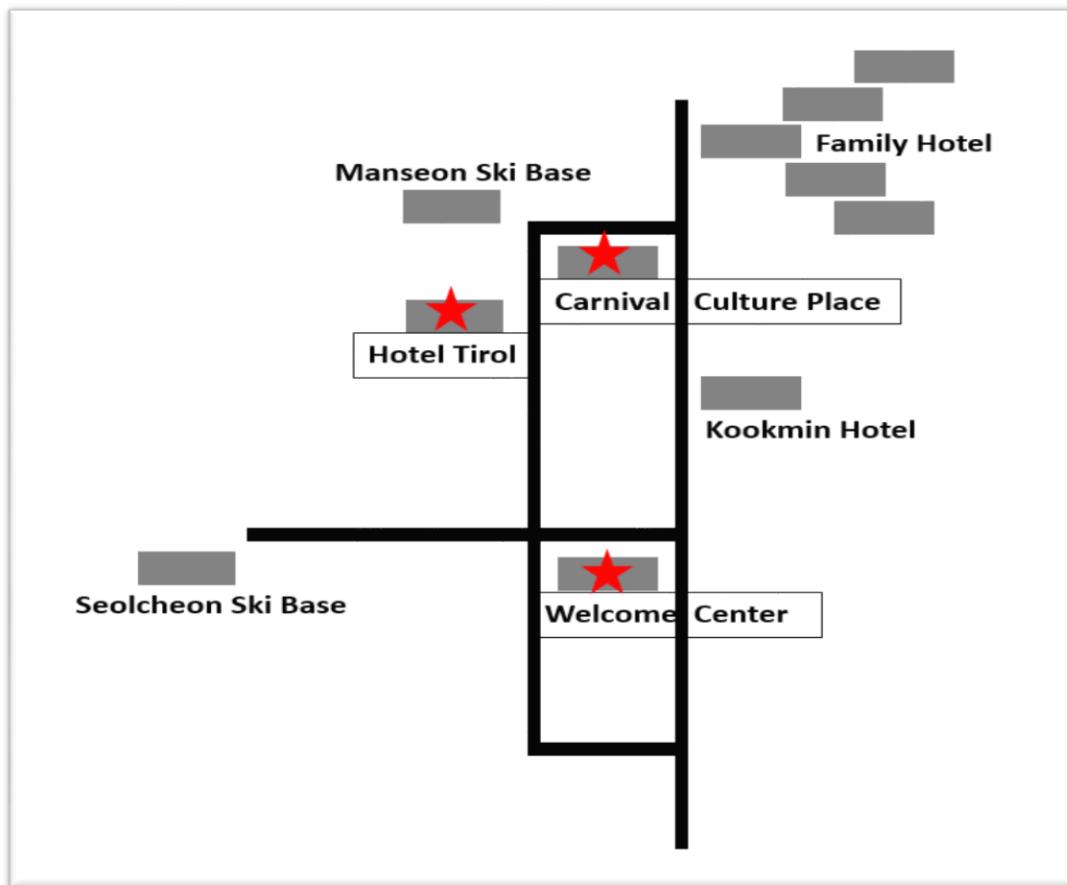
P2-49	Eunnam Bang	NFRI	Characterization of flat type small size tungsten PFCs mock-ups fabricated by HIP process
P2-50	Hee-Jae AHN	NFRI	Design Overview of the Plasma Facing Components for KSTAR
P2-51	Hee-Jin Shim	NFRI	Understanding the Parameters of Molybdenum Disulfide for Low Friction Coating in Vacuum System
P2-52	Hyoung Chan Kim	NFRI	Comparison of thermal and chemical properties of tungsten for the application to plasma facing mater
P2-53	HYUNG GYU LEE	Yonsei univ.	Molecular dynamics study of the surface cascades in bcc tungsten under the multiple-irradiations
P2-54	Jaemin Song	SNU	Observation of Temperature Effect on Size Distribution of Dust from Deuterium Irradiated Tungsten BI
P2-55	Jeong SeoJin	Hanyang univ.	Experimental deduction of sheath heat transmission factors by thermocouples and triple probe in DiPS
P2-56	Kwan-yong Kim	Hanyang univ.	Measurement of KSTAR plasma parameters and ELM characteristics using multi-channel probe
P2-57	Nam-Kyun Kim	SNU	Investigation of Ion Motion in a Magnetized Presheath of Weakly Collisional Plasmas
P2-58	Shekar Thatipamula	NFRI	Modification of divertor particle flux by inter ELM quasi-coherent mode dynamics in the KSTAR edge p
P2-59	shim sungyoung	Hanyang university	Optical diagnostics for the helium recombining plasma
P2-60	Hyungho Lee	NFRI	Progress in the research on the outer divertor heat flux in KSTAR
P2-61	Soo-Hyun Son	NFRI	Analysis on surface loss probability of redeposited layer inside cavity in KSTAR
P2-62	Youhwan Jo	Kyung Hee Univ.	A Repulsive Correction for Tersoff Si Potential
P2-63	Younggil Jin	SNU	Development of Hydrogen Retention Model based on Plasma-Material Interaction Analysis
P2-64	Alex Leide	University of Oxford	Metal silicide reaction-bonded silicon carbide
P2-65	Charles Vincent	Durham University	Fission Chambers for neutron flux measurements onMAST-U
P2-66	Laszlo Horvath	University of York	Analysis of the pedestal structure and stability in H and D plasmas on JET-ILW
P2-67	Mark Bowden	University of Liverpool	Comparison of Thomson scattering and Langmuir probes for electron property measurements
P2-68	Michail Anastopoulos-Tzanis	University of York	3D Perturbative MHD Stability
P2-69	Patrick McCarthy	University of Liverpool	Fuzzy Tungsten Research for Fusion Applications
P2-70	Sam Gibson	Durham University	Motional Stark Effect Measurements on MAST-U
P2-71	Siobhan Smith	University of York	Numerical Simulations of Edge Localised Modes in MAST-U Plasmas
P2-72	Thomas Nicholas	University of York	The Dimensionality of Turbulence in Drift-Fluid Simulations of the Scrape-Off-Layer
P2-73	Blair, A. I.	Durham University	Modelling Superconductors for Fusion Magnets using Ginzburg—Landau Theory

P2-74	A.P. Smith	Durham University	Critical Current Density in GdBCO Tape for Fusion Applications Measured using Harmonic Ac Susceptibility in Fields up to 35 T

※Guidance for Poster Speakers.

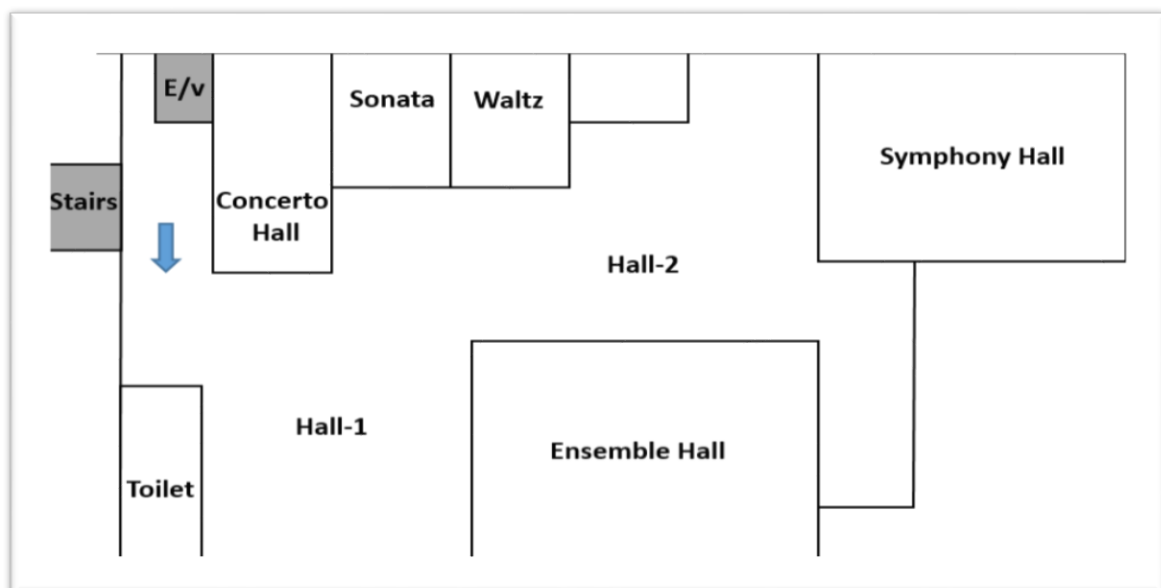
- Official Language: English
- Poster Size : A0 (841X1,189mm) or equivalent
- Poster Attachment and Detachment
 - Attachment : before 13:00
 - Detachment : 18:00
- Each poster has been assigned a number, and must be mounted on the appropriately numbered board. Please check number.

Map of Muju Resort



*The shuttle bus operates regularly within the resort.

Map of Carnival Culture Palace B1F (Conference House)



◎ Transportation

- Incheon Air port → **Daejeon Government Complex (Chungsa Terminal)** → Hotel

* You can buy ticket from any ticketing kiosk at the 1st floor outside the Incheon airport building. The bus stop to Daejeon is "No. 9D" after crossing the street.

- Airport Limousine Bus (almost 23,100won/1person, 2h 50min)
- (Terminal) → Interciti Hotel) : Taxi (almost 10,000won , 10min)
- (Hotel to NFRI) : Taxi (almost 10,000won , 10min)

- **Daejeon → Muju Resort**

* **We provide a shuttle bus to conference attendees.**

* **Be sure to check the conference website (Registration - Participation Form - Transportation).**

- Jan. 18th : NFRI (8 :00am) → Muju Resort(9:40am)

Toyoko Inn (7:40am) → Interciti Hotel (08:00am) → Muju Resort(9:40am)

- Jan. 20th : Muju Resort (4:00pm) → NFRI , Hotel

○ **If you do not use the NFRI shuttle bus (Daejeon → Muju Resort),**

- From Incheon International Airport or Seoul, you can take a bus to Daejeon-Dongbu-Bus-Terminal (Daejeon Complex Terminal).

- You have to use bus from Daejeon-Dongbu-Bus-Terminal (Daejeon Complex Terminal) to Muju and take a resort shuttle bus from Muju to the resort.

■ Daejeon Terminal <--> Muju Terminal.

Departure	Arrival	Departure	Arrival
Daejeon Terminal Complex	Muju Bus Terminal	Muju Bus Terminal	Daejeon Terminal Complex
7:20	8:10	7:00	7:50
8:00	8:50	7:40	8:30
9:00	9:50	8:30	9:20
9:40	10:30	9:00	9:50
10:30	11:20	9:50	10:40
11:10	12:00	10:30	11:20
12:00	12:50	11:30	12:20
12:50	13:40	12:35	13:25
13:20	14:10	13:20	14:10
14:00	14:50	14:00	14:50
14:50	15:40	14:35	15:25
15:20	16:10	15:10	16:00

16:10	17:00	16:10	17:00
16:50	17:40	16:40	17:30
17:30	18:20	17:35	18:25
18:10	19:00	18:25	19:15
19:00	19:50	19:30	20:20
20:00	20:50	20:00	20:50
21:00	21:50	20:40	21:30

- Travelling Time(50~60Min.)

■ Muju Terminal <--> Muju Resort.

Departure	Arrival	Departure	Arrival
Muju Bus Terminal	Muju Resort	Muju Resort	Muju Bus Terminal
07:30	08:20	09:30	10:20
10:30	11:20	13:00	13:50
14:15	15:05	15:30	16:20
16:40	17:10	18:00	18:50
19:10	19:40		