

Program for 20th International Spherical Torus Workshop (ISTW-2019)

October 28-31, 2019

Bruno Brunelli Hall - ENEA Frascati Research Center

Program version 5 - October 11, 2019

Extended Oral: 30 + 5 min

Oral: 15 + 5 min

Poster Size: Size A0 = 84.1cm wide x 118.9 cm high = 33.1 inches wide x 46.8 inches high

Monday, October 28, 2019

8:00AM		Registration	
		Session O1 - Chair: J. Menard	Speaker
9:00AM		Logistics and meeting introduction	Local Organizing Committee
9:15AM	Extended Oral	Final results of the Phase-1 of the PROTO-SPHERA experiment and first evidences of plasma tori production and sustainment	Paolo Micozzi
9:50AM	Oral	Present and future plans of PROTO-SPHERA	Franco Alladio
10:10AM	Oral	Technical Benefits of the PROTO-SPHERA Confinement Configuration	Domenico Lampasi
10:30AM	Oral	Analytical studies of PROTO-SPHERA equilibria	Paolo Buratti
10:50AM		Coffee Break	
11:15AM	Extended Oral	MAST-U experimental programme: From first plasma to first campaign	Andrew Thornton
11:50AM	Oral	MAST Upgrade - features and status	Brian Lloyd
12:10PM	Extended Oral	First operation of the Lithium Tokamak Experiment - β	Dick Majeski
12:45PM		End of morning session	
1-2PM		Lunch	
		Session O2 - Chair: Y.-S. Hwang	Speaker
2:00PM	Extended Oral	Integrated Studies of Solenoid Free Tokamak Startup	Raymond Fonck
2:35PM	Oral	Microwave Heating and Current Drive of Overdense Plasmas in the Upgraded Pegasus Experiment	Stephanie Diem
2:55PM	Oral	CHI Research on PEGASUS 3	Roger Raman
3:20PM		Coffee Break	
3:50PM	Extended Oral	Globus-M2 operation at toroidal magnetic field strength 0.7 T	Vasily Gusev
4:25PM	Extended Oral	Thermal energy confinement at the Globus-M spherical tokamak and first results from the Globus-M2 experiments	Gleb Kurskiev
5:00PM		End of afternoon session	

Tuesday, October 29, 2019

8:00AM		Registration	
		Session O3 - Chair: S. Diem	Speaker
9:00AM	Extended Oral	Tokamak Energy and the high-field spherical tokamak route to fusion power	Steven McNamara
9:35AM	Extended Oral	Faster Fusion: ST40, engineering, commissioning, first results	Mikhail Gryaznevich
10:10AM	Extended Oral	Overview of recent progress on non-inductive start-up experiment in LATE	Hitoshi Tanaka
10:45AM		Coffee Break	
11:10AM	Extended Oral	Overview of Versatile Experiment Spherical Torus (VEST): Progress and Plans	Yong-Seok Hwang
11:45AM	Extended Oral	Scaling Physics of Reconnection Heating for ST Merging Startup Experiments	Yasushi Ono
12:20PM	Oral	Investigation of ion heating/transport process of magnetic reconnection during CS-free merging plasma startup of spherical tokamak in TS-6	Hiroshi Tanabe
12:40PM		Group Photo	
1PM		End of morning session	
1-2PM		Lunch	
2-2:30PM		Poster setup	
		Session P1 - Chair: F. Alladio	
2:30PM	Poster #	Poster Session	Presenter
	1	Status and Plans for the NSTX-U Recovery Project	Stan Kaye
	2	Enhanced Pedestal H-mode Regime on NSTX	Devon Battaglia
	3	Characterization of tearing modes in NSTX using ultra-soft X-ray measurement and integrated simulations	Jeong-hun Yang
	4	Measurements of electron Bernstein wave emission on SUNIST spherical tokamak	Shouzhi Wang
	5	The Current Drive Mechanism of Helicity Injection	Yuhang Luo
	6	Development of a fast-opening repetitive magnetic valve for gas injection in spherical tokamaks	Binbin Wang
	7	Comparison of turbulent transport regulated by shear layers on conventional and spherical tokamaks	Wenbin Liu
	8	Implementation of the Spherical Tokamak MEDUSA-CR	Luis Araya
	9	T-CHI current start up by a simple configuration electrode in QUEST	Kengoh Kuroda
	10	First Neutral Beam Injection Experiments in Versatile Experiment Spherical Torus	Kihyun Lee
	11	MHD instabilities in Versatile Experiment Spherical Torus	Seongcheol Kim
	12	Analytical solutions for the guiding centers magnetically confined in a sphere	Lorenzo Valvo
	13	Proposed Liquid Metal PFC Development Program in NSTX-U	Rajesh Maingi
3:30PM		Coffee during poster session	
5PM		End of afternoon session	
6PM		IEA ST Technology Collaboration Programme - Executive Committee Meeting (No. 13)	Yong-Seok Hwang (Chair)

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Wednesday, October 30, 2019

8:00AM		Registration	
		Session O4 - Chair: B. Lloyd	Speaker
9:00AM	Extended Oral	NSTX-U: Recent Results and Plans	Stanley Kaye
9:35AM	Extended Oral	Validation of gyrokinetic simulations in NSTX including comparisons with a synthetic diagnostic for high-k scattering.	Juan Ruiz Ruiz
10:10AM	Extended Oral	3D HHFW full wave simulations with realistic antenna geometry and SOL plasma in NSTX-U	Nicola Bertelli
10:45AM		Coffee Break	
11:15AM	Oral	Machine learning approaches to predict the ideal stability properties of spherical tokamak plasmas	Andrea Piccione
11:35AM	Oral	Transient CHI start-up of low inductance plasma for advanced ST scenarios	Roger Raman
11:55AM	Extended Oral	Configuration Studies for a Low-Aspect-Ratio Liquid-Metal-Wall Sustained High-Power-Density Tokamak Facility	Jonathan Menard
12:30PM		End of morning session	
12:45-2PM		Lunch	
		Session O5 - Chair: Y. Takase	
2:00PM	Extended Oral	Overview of recent progress on the QUEST experiments	Kazuaki Hanada
2:35PM	Oral	Neutral particle - electron collision effect for branching plasma current ramp-up on 28 GHz 2nd harmonics ECCD	Shinichiro Kojima
2:55PM	Extended Oral	Modeling of 2nd Harmonic Electron Cyclotron Heating and Current Drive Solenoid-free Start-up Experiment in QUEST	Masayuki Ono
3:30PM		End of presentations	
3:45PM-5PM		Tour of local experiments and facilities at Frascati	
8:00PM		ENEA-organized social dinner at local restaurant in Frascati	

Thursday, October 31, 2019

8:00AM		Registration	
		Session O6 - Chair: Y. Ono	Speaker
9:00AM	Extended Oral	Plasma Current Start-up and Ramp-up Experiments on the TST-2 Spherical Tokamak	Yuichi Takase
9:35AM	Extended Oral	Recent research activities on the SUNIST spherical tokamak	Zhe Gao
10:10AM	Extended Oral	The progress of the SUNIST-2 spherical tokamak	Yi Tan
10:45AM		Coffee Break	
11:15AM	Extended Oral	Status of the EXL-50 spherical tokamak experiment	Y.-K. M. Peng
11:50AM		Closing Session - Group discussion, information on next ST workshop	Local Organizing Committee
12PM		Close of meeting	All