

2017 Workshop: Turbulence in Space and Laboratory Plasma and Impact on High Frequency (HF) Wave Propagation

Drs. Jason Marshall and Vladimir Sotnikov | September 6-7, 2017 | Arlington, VA

Basic Research Innovation and Collaboration Center (BRICC)
4075 Wilson Blvd., Suite 350 | Liberty Room
Arlington, VA 22203

Agenda Day 1 | September 6, 2017

Time	Title	Speaker
8:30-9:00	Registration	
0900-0905	Introduction and Opening Remarks	J. Marshall – Air Force Office of Scientific Research V. Sotnikov – Air Force Research Laboratory
0905-0920	Air Force Office of Scientific Research: Ongoing Activities	J. Marshall – Air Force Office of Scientific Research
0920-0940	Overview of AFRL/RV	T. Kim – Air Force Research Laboratory
0940-1000	Overview of NRL/PPD	T. Mehlhorn – Naval Research Laboratory
1000-1020	The Impact of the Solar Eclipse on the Ionosphere/Plasmasphere System	J. Huba – Naval Research Laboratory
1020-1035	BREAK	
1035-1055	21 August 2017 Eclipse Observations and Measured Impact on HF Propagation	P. Bernhardt – Naval Research Laboratory
1055-1115	Hamiltonian Single Wave Models to Investigate the Nonlinear Self-Consistent Interaction of Whistler Waves and Electrons	C. Crabtree – Naval Research Laboratory
1115-1135	Laboratory Study of Wave Generation near Dipolarization Fronts	A. Tejero – Naval Research Laboratory
1135-1155	Alfvénic Turbulence and Energy Release in Space Plasmas	M. A. Balikhin – University of Sheffield, UK
1155-1215	Massively Parallel Computations of EM Propagation in Plasmas	J. Cary – University of Colorado, Tech-X
1215-1345	LUNCH	
1345-1405	Plasma Turbulence Effects in the Equatorial E-Region Ionosphere	Y. Dimant – Boston University
1405-1425	Impact of the Thermosphere and Solar Wind on the Plasmasphere	J. Krall – Naval Research Laboratory
1425-1445	Signatures of Middle-Latitude Electron Density Irregularities in Ground Based and Space-Borne	H. Kil – Johns Hopkins University

	Observations	
1445-1500	BREAK	
1500-1520	Investigation of Parametric Excitation of Whistler Waves Using 3D Particle-In-Cell Simulations	D. Main – T2Sys Inc.
1520-1550	Upper-Hybrid Wave Turbulence in Magnetized Ionospheric Plasma	P. Yoon – University of Maryland
1550-1610	HF and Optical Observations of Traveling Ionospheric Disturbances and Spread-F	E. S. Miller – Johns Hopkins University
1610-1630	Dual-Wavelength Interferometry and Light Emission Study for Experimental Support of Two-Wire Implosion Experiments	A. Hamilton – Air Force Research Laboratory
1630-1650	Simulations of Collisionless Counter-Propagating Plasma Flows in Support of Two-Wire Experiments	J. Caplinger – Air Force Research Laboratory
	WORKSHOP ADJOURN FOR THE DAY	

Agenda Day 2 | September 7, 2017

Time	Title	Speaker
8:30-9:00	Registration	
0900-0920	Ionospheric Turbulence Generated by High Power HF Transmitters	J. P. Sheerin – Eastern Michigan University
0920-0940	Overview of Ionospheric Modification for Controlling the Ionosphere with High Power Radio Waves and Chemical Releases	P. A. Bernhardt – Naval Research Laboratory
0940-1000	Impact of Magnetic Storms on the Ionosphere/Plasmasphere System	J. Huba – Naval Research Laboratory
1000-1020	Parametric Interaction of VLF and ELF Waves and Impact on Energetic Electrons in a Radiation Belt	V. Sotnikov – Air Force Research Laboratory
1020-1040	BREAK	
1040-1100	Ionosphere Plasma Dynamics Monitoring using GNSS Measurements	J. Morton – University of Colorado, Boulder
1100-1120	Reception of Microwave Signals through a Shear Flow with Lower Hybrid Instabilities	S. Mudaliar – Air Force Research Laboratory
1120-1140	Non-Linear Excitation of Fast Magnetosonic Waves via Quasi- Electrostatic Whistler Wave Mixing	N. Zechar – Riverside Research Inc.
1140-1200	Annual Ionospheric Patch Occurrence Trend Observed Using Swarm Langmuir Probe and TEC Data	A. Chartier – Johns Hopkins University
1200-1220	Identification of the Composition and Dynamical Processes within Observed Plasma Turbulence	M. Balikhin – University of Sheffield
1220-1230	Closing Remarks	
WORKSHOP ADJOURN		