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<th>Technical Session</th>
<th>Technical Session Organizer</th>
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<td>1.1 Basic Plasma Phenomena</td>
<td>Christopher Moore (<a href="mailto:chmoore@sandia.gov">chmoore@sandia.gov</a>)</td>
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**Session MO 1.1: Basic Plasma Phenomena I**

Monday, May 22, 2017 from 10:00-12:00, Wildwood 9

Session Chair: Andrew S Fierro, Sandia National Laboratories

**10:00 MO 1.1-1 DARK-TO-ARC TRANSITION IN AIR FOR PLANAR ELECTRODES WITH MICROSCALE GAPS**
A. D. Strongrich, G. Shivkumar, D. Peroulis, A. A. Alexeenko

School of Aeronautics and Astronautics, Purdue University, West Lafayette, IN, United States

**10:30 MO 1.1-2 INVESTIGATION OF MICRODISCHARGES IN ASSYMMETRIC ARRANGEMENTS OF A PIN AND A HEMISPHERICAL ELECTRODE WITH NON-UNIFORM ELECTRIC FIELD**
S. Jahanbakhsh, V. Brueser, R. Brandenburg

INP Greifswald, Greifswald, Germany

**10:45 MO 1.1-3 UNIVERSAL GAS BREAKDOWN THEORY FROM MICROSCALE TO THE CLASSICAL PASCHEN LAW**
A. M. Loveless, A. L. Garner

Nuclear Engineering, Purdue University, West Lafayette, IN, United States

**11:00 MO 1.1-4 SIMULATION OF STRIATIONS IN DC GLOW DISCHARGES IN NITROGEN**
R. Mahamud, T. Farouk, V. Kolobov

Mechanical Engineering, University of South Carolina, Columbia, SC, United States

CFD Research Corporation, Huntsville, AL, United States

**11:15 MO 1.1-5 OPTICAL EMISSION SPECTROSCOPY OF PLASMA EVOLUTION IN OVERVOLTAGED SPARK GAPS**
T. R. Schmidt Jr, A. T. Elshafiey, S. Portillo

Electrical and Computer Engineering, University of New Mexico, Albuquerque, NM, United States

**11:30 MO 1.1-6 MICROPLASMA COUPLING EFFECT IN ARRAYS OF HYBRID STRUCTURE MICROCavitIES**
Y. Wang, X. Zhang, Z. He, C. Liu

Electronic and Information Engineering, Xi'an Jiaotong University, Xi'an, Shaan Xi, China

**11:45 MO 1.1-7 INFLUENCE OF THE PULSED AMF ARC CONTROL ON THE VACUUM ARC AND POST ARC CHARACTERISTIC IN VACUUM INTERRUPTERS**
G. Ge, M. Liao, X. Duan, Z. Huang, J. Zou

School of Electrical Engineering, Dalian University of Technology, Dalian, China
Session TU 1.1: Basic Plasma Phenomena II

Tuesday, May 23, 2017 from 10:00-12:00, Wildwood 9

Session Chair: Ricky Tang, Sandia National Laboratories

10:00  TU 1.1-1 SPONTANEOUS SELF-ORGANIZATION IN A HELICON PLASMA DEVICE: INSTABILITIES, BIFURCATION, HYSTERESIS AND PLASMA DETACHMENT  
S. Chakraborty Thakur, R. Hong, K. Adriany, G. R. Tynan  
University of California San Diego, La Jolla, United States

10:30  TU 1.1-2 STUDIES OF PLASMA DENSITY GRADIENT EFFECT ON DIRECT CONVERSION OF UPPER-HYBRID WAVES IN ELECTROMAGNETIC EMISSION FOR BEAM-PLASMA SYSTEM  
A. V. Arzhannikov1,2, V. V. Annenkov1,2, A. V. Burdakov1,3, V. S. Burmasov1,2, I. A. Ivanov1,2, A. A. Kasatov1,2, S. A. Kuznetsov2, M. A. Makarov1, K. I. Mekler1, S. V. Polosatkin1,2, V. V. Postupaev1,2, A. F. Rovenishkii1, S. L. Sinitsky1,2, V. F. Sklyarov1,2, V. D. Stepanov1,2, I. V. Timofeev1,2  
1Budker Institute of Nuclear Physics, Novosibirsk, Russian Federation  
2Novosibirsk State University, Novosibirsk, Russian Federation  
3Novosibirsk State Technical University, Novosibirsk, Russian Federation

10:45  TU 1.1-3 EFFECT OF PARALLEL CONNECTION LENGTH ON FLOWS, FLUCTUATIONS AND QUASI-STATIONARY EQUILIBRIUM IN SIMPLE TOROIDAL DEVICE  
U. Kumar1, R. Ganesh1, S. G. Thatipamula2, Y. C. Saxena1, D. Raju1  
1BETA, Institute for Plasma Research, Gandhinagar, Gujarat, India  
2Pohang University of Science and Technology, Pohang, South Korea

11:00  TU 1.1-4 MODELING OF CAPACITIVELY COUPLED RF DISCHARGE WITH NON-SINUSOIDAL CURRENT WAVEFORM  
G. Shivkumar1, S. S. Tholeti1, S. O. Macheret1, M. A. Alrefae2, T. S. Fisher2, A. A. Alexeenko1  
1School of Aeronautics and Astronautics, Purdue University, West Lafayette, IN, United States  
2School of Mechanical Engineering, Purdue University, West Lafayette, IN, United States

11:15  TU 1.1-5 EFFECT OF RADIATIVE HEAT TRANSFER ON INDUCTIVELY COUPLED PLASMA SIMULATION  
M. Yu  
Faculty of Mechanical and Precision Instrument Engineering, Xi'an University of Technology, Xi'an, China

11:30  TU 1.1-6 A LONG HELIUM PLASMA COLUMN GENERATED AT 13.56 MHZ UP TO ATMOSPHERIC PRESSURE  
J. -S. Boisvert1, J. Margot2  
1Institut National de la Recherche Scientifique (INRS), 1602 blvd. Lionel Boulet, Quebec, J3X 1S2, Canada, Varenne, Canada  
2Departement de physque, Universite de Montreal, Montreal, H3T 1J4, Canada, Montreal, Canada

11:45  TU 1.1-7 MODULATION INSTABILITY AND ENVELOPE EXCITATION IN PARTIALLY STRIPPED MAGNETIZED QUANTUM PLASMA  
P. Kumar, N. S. Rathore  
Department of Physics, University of Lucknow, LUCKNOW, India