

Technical Session	Technical Session Organizer
2.5 Codes and Modeling	Peter Mardahl (peter.mardahl@us.af.mil)

Session MO 2.3: Codes and Modeling I

Monday, May 22, 2017 from 16:00-17:45, Wildwood 12

Session Chair: Peter Mardahl, Air Force Research Laboratory

16:00 MO 2.3-1 EFFICIENT ABSORBING BOUNDARY CONDITIONS FOR ELECTROMAGNETIC PIC SIMULATION

S. J. Cooke

Electronics Science And Technology Division, Naval Research Laboratory, Washington, DC, United States

16:15 MO 2.3-2 (invited) A HIGH-PERFORMANCE PARALLEL COMPUTING FRAMEWORK FOR UNCERTAINTY QUANTIFICATION ANALYSIS OF RF DEVICES

G. M. Stantchev¹, S. J. Cooke¹, K. W. Elliott², J. J. Petillo²

¹*Naval Research Laboratory, Washington, DC, United States*

²*Leidos, Inc, Billerica, MA, United States*

16:45 MO 2.3-3 LARGE SCALE OPTIMIZATION OF RF DEVICES

A. Jensen¹, J. Petillo¹, S. Ovtchinnikov¹, A. Burke¹, D. Panagos¹, C. Kostas¹, G. Statchev², S. Cooke²

¹*Leidos, Billerica, MA, United States*

²*US Naval Research Laboratory, Washington, DC, United States*

17:00 MO 2.3-4 ADVANCES IN BEAM OPTICS ANALYZER

T. Bui, R. L. Ives, M. Read

Calabazas Creek Research, Inc., Mountain View, CA, USA

17:15 MO 2.3-5 DEVELOPMENTS OF THE MICHELLE CODE FOR HIGH PERFORMANCE COMPUTING

J. J. Petillo¹, S. Ovtchinnikov¹, C. Kostas¹, D. N. Panagos¹, A. Jensen¹, A. Burke¹, E. Nelson¹, G. Stantchev², S. Cooke², B. Held³, A. Nichols³, S. Ayala³

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³*AWR - National Instruments, Mequon, WI, United States*

17:30 MO 2.3-6 A MODEL OF PHOTOEMISSION DELAY MECHANISMS AND ITS APPLICATION TO BEAM OPTICS CODES

K. L. Jensen¹, J. J. Petillo², D. N. Panagos³, S. Ovtchinnikov², N. A. Moody⁴, A. J. Jensen²

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Session TH 1.1: Codes and Modeling II

Thursday, May 25, 2017 from 10:00-12:00, Wildwood 9

Session Chair: Andrey D Andreev, Booz Allen Hamilton Inc.

10:00 TH 1.1-1 STUDY ON THE BEFORE CAVITY INTERACTION IN A SECOND HARMONIC GYROTRON USING 3D CFDTD PIC SIMULATIONS

M. C. Lin¹, A. Malygin², S. Illy², M. Thumm², J. Jelonnek²

¹*Department of Electrical and Biomedical Engineering, Hanyang University, Seoul, South Korea*

²*Institute for Pulsed Power and Microwave Technologies, Karlsruhe Institute of Technology, Karlsruhe, Germany*

10:15 TH 1.1-2 (invited) STUDY ON THE AFTER CAVITY INTERACTION IN A 140 GHZ GYROTRON USING 3D CFDTD PIC SIMULATIONS

M. C. Lin¹, S. Illy², K. Avramidis², M. Thumm², J. Jelonnek²

¹*Department of Electrical and Biomedical Engineering, Hanyang University, Seoul, South Korea*

²*Institute for Pulsed Power and Microwave Technologies, Karlsruhe Institute of Technology, Karlsruhe, Germany*

10:45 TH 1.1-3 VALIDATION AND BENCHMARKING OF TWO PARTICLE-IN-CELL CODES FOR A GLOW DISCHARGE

J. Carlsson¹, A. Khrabrov¹, I. Kaganovich¹, T. Sommerer², D. Keating³

¹*Princeton Plasma Physics Laboratory, Princeton, NJ, United States*

²*General Electric Global Research, Niskayuna, NY, United States*

³*Department of Physics, University of California at Berkeley, Berkeley, CA, United States*

11:00 TH 1.1-4 COUPLING MD SIMULATIONS OF LASER ABLATION WITH PIC-DSMC SIMULATIONS OF PLASMA PLUME EXPANSIONS AND SUBSEQUENT LASER-PLASMA INTERACTIONS

S. M. Copplestone¹, P. Ortwein¹, C. -D. Munz¹, M. Pfeiffer², S. Fasoulas²

¹*Institute of Aerodynamics and Gas Dynamics, Stuttgart, Germany*

²*Institute of Space Systems, Stuttgart, Germany*

11:15 TH 1.1-5 COMPUTER SIMULATION OF ACETYLENE PLASMA POLYMERIZATION: EFFECT OF SUBSTRATE TEMPERATURE

M. Zarshenas¹, A. Delcorte¹, T. Leyssens²

¹*Bio & Soft Matter, Institute of Condensed Matter and Nanoscience-Bio & Soft Matter, Universit  catholique de Louvain, louvain la neuve, Belgium*

²*Molecules, Solids and Reactivity, Institute of Condensed Matter and Nanoscience, Universite catholique de Louvain, louvain la neuve, Belgium*

11:30 TH 1.1-6 VALIDATION AND VERIFICATION OF A PIC/MCC CODE FOR LOW TEMPERATURE PLASMAS

A. Sun

Xi'an Jiaotong University, Xi'an, Shanxi, China

11:45 TH 1.1-7 PICLAS: A HIGHLY FLEXIBLE PARTICLE CODE FOR THE SIMULATION OF REACTIVE PLASMA FLOWS

P. Ortwein¹, S. Copplestone¹, C. -D. Munz¹, M. Pfeiffer², T. Binder², A. Mirza², P. Nizenkov², S. Fasoulas²

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