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Alexandre Chirokov

Objective

Looking for an exciting career opportunity in R&D.

Education

2003–2005 Drexel University Philadelphia, PA
- Ph.D., Mechanical Engineering, GPA 4.0 out of 4.0

2002–2003 Drexel University Philadelphia, PA
- M.S., Mechanical Engineering, GPA 4.0 out of 4.0

2000–2002 University of Illinois of Chicago Chicago, IL
- M.S., Mechanical Engineering, GPA 4.0 out of 4.0, transferred to Drexel University.

1995–2000 Moscow Institute of Physics and Technology
- B.S., Applied Physics and Mathematics

Professional Experience

2002–present Drexel University Philadelphia, PA

Research Associate
- Stability analysis of the atmospheric pressure plasma jet (APPJ) (collaboration with Air Products)
- Self-Organization of microdischarges in DBD Plasma. (collaboration with Eastman Kodak Company)
- Optimization and parametric study of corona treaters. (collaboration with Eastman Kodak Company)

2000–2002 University of Illinois at Chicago Chicago, IL

Visiting Researcher
- Modeling and simulation of ICP torches with the reverse vortex stabilization. (Plasma torch in tornado)
- Simulation of NOx generation in dielectric barrier discharges. (collaboration with Eastman Kodak Company).

1999–2000 SPIRIT Corp. Moscow, Russia

Algorithm Developer
- Analyzed, developed and implemented numerical algorithms.

1997–1999 VNIIOFI (National Laboratory) Moscow, Russia

Research Assistant
- Developed and implemented algorithms for statistical data analysis.

Technical Computing Skills

Modeling and Simulation Software

- FLUENT (CFD), CFD-ACE, ANSYS, FEMLAB, CHEMKIN, CANTERA.

Programming Languages

- C/C++, FORTRAN.

Mathematical Analysis and Computation

- MATLAB, Maple, MathCAD.

Scientific Visualization

- AutoCAD, Tecplot.

Selected Publications

[1] A Chirokov, A Gutsol, A Fridman, K D Sieber, J M Grace and K S Robinson "Analysis of two-dimensional microdischarge distribution in dielectric-barrier discharges", Plasma Sources Sci. Technol. 13 (2004) 623-635.

[2] A. Fridman, A. Chirokov, A. Gutsol. "Non-thermal atmospheric pressure discharges". Journal of Physics D: Applied Physics (2005), 38(2), R1-R24

[3] A. Chirokov, A. Gutsol, A. Fridman. "Atmospheric pressure plasma of dielectric barrier discharges". Pure and Applied Chemistry (2005), 77(2), 487-495.

[4] A Chirokov, A Gutsol, A Fridman, K D Sieber, J M Grace and K S Robinson, "Self-Organization of Microdischarges in Dielectric Barrier Discharge Plasma", IEEE Transaction on Plasma Science (2005), 33(2), 300-301

[5] A. Chirokov, A. Gutsol, A. Fridman, K. D. Sieber, J. M. Grace, K. S. Robinson, "Stability of the Atmospheric Pressure Dielectric Barrier Glow Discharges", 16th International Symposium on Plasma Chemistry (ISPC-17), (2005)

[6] A. Chirokov, K. Iskenderova, A. Gutsol, A. Fridman, "Modeling of Chemical Vapor Deposition System Cleaning by Remote Plasma Source and/or In-Situ Plasmas", 16th International Symposium on Plasma Chemistry (ISPC-17), (2005)

[7] A. Chirokov, K. Iskenderova , A. Gutsol, A. Fridman, K.D. Sieber, J. Grace , "Two-dimensional modeling of spontaneous pattern formation in Dielectric-Barrier Discharge system for polymer film treatment", 31st IEEE International Conference on Plasma Science, (ICOPS-31), Baltimore, on 28 June-1 July Page(s):412, (2004).

[8] A. Chirokov, A. Gutsol, A. Fridman, K. D. Sieber, J. M. Grace, K. S. Robinson, "Two-dimensional modeling of spontaneous pattern formation in dielectric-barrier discharge system", 16th International Symposium on Plasma Chemistry (ISPC-16), (2003)