John J. Mankowski

Education

Ph.D., Electrical Engineering, Texas Tech University, 1997
M.S.E.E., Electrical Engineering, Texas Tech University, 1995
B.S.E.E., Electrical Engineering, Worcester Polytechnic Institute, 1990

Academic experience

Aug 2018 to Present (Full Time)	Professor	Texas Tech University (TTU)
Aug 2009 to 2017 (Full Time)	Associate Professor	Center for Pulsed Power & Power Elec.
Aug 2002 to 2008 (Full Time)	Assist. Professor	Dept. of Electr. & Comp. Eng., TTU, TX
Sep 2001 to Dec 2002 (Part Time)	Adjunct Professor	Univ. Tennessee (Chattanooga)– Dept. of Engineering

Non-academic experience

Aug 2008 to July 2009 (Full Time)	Engineering Manager	Prima North America Convergent Lasers Chicopee, MA
Aug 1999 to Aug 2002 (Full Time)	Senior Electrical Engineer	Accurate Automation Corp. Chattanooga, TN

Current membership in professional organizations

Senior Member, Institute of Electrical and Electronics Engineers (IEEE)

Service activities

Lead organizer, Pulsed Power Short Course, Lubbock, TX, January 2015.
Technical Area Coordinator, IEEE International Pulsed Power Conference 2015 and 2017.
Guest Editor, IEEE Trans. on Plasma Science Special Issue on Pulsed Power, 2004 and 2021
Guest Editor, IEEE Trans. on Plasma Science Special Issue on High Power Particle Beams, 2009.

Recent Publications

1. Silvestre, L., Shaw, Z., Sugai, T., Stephens, J., Mankowski, J., Dickens, J., Neuber, A., Joshi, R., "A Continuum Approach for Multipactor Using the Vlasov-Poisson Analysis," *Journal of Physics D: Applied Physics, 55*, 045202, 2022.
2. Aponte, I., Esser, B., Dickens, J., Mankowski, J., Neuber, A., "Fundamental investigation of unipolar and RF corona in atmospheric air," *Physics of Plasmas, 28*(12), 123502, 2021.
3. Brooks, W., LaPointe, M., Collier, L., Mankowski, J., Dickens, J., Hattz, D., Koone, N., Neuber, A. (2021). Lightning Current Propagation in Electrical Conduit. *IEEE Transactions on Plasma Science*.
4. Qiu, X., Saed, M., Mankowski, J., Dickens, J., Neuber, A., Joshi, R. (2021). Model Evaluations of Multipactor Suppression in Rectangular Waveguides Through Grooved Surfaces and a Static Magnetic Field. *AIP Advances, 11*, 025039.
5. Shaw, Z., Silvestre, L., Sugai, T, Esser, B., Mankowski, J., Dickens, and Neuber, A., "On the Limits of Multipactor in Rectangular Waveguides," *Physics of Plasmas*, 27 (8), 2020.
6. Brooks, W., Barnett, D., Harrison, W., Hattz, D., Mankowski, J., Dickens, J., and Neuber, A.," Investigation of Lightning Attachment Risks to Small Structures Associated with the Electrogeometric Model (EGM)," *IEEE Transactions on Plasma Science, 48*(6), 2019.
7. Aponte, I., Esser, B., Shaw, Z., Dickens, J., Mankowski, J., and Neuber, A," Fundamental study of DC and RF breakdown of atmospheric air," *Physics of Plasmas*, 26 (12), 2019.

8. Esser, B., Dickens, J., Mankowski, J., and Neuber, A, "Geometry tuning of an electrically small antenna for ionospheric heating," *Radio Science,* 54 (6), 2019.
9. Collier, L., Kajiwara, T., Dickens, J., Mankowski, and Neuber, A., "Fast SiC Switching Limits for Pulsed Power Applications," *IEEE Transactions on Plasma Science*, 47 (12), 2019.
10. Abide, M., Dickens, J., R. Joshi, Neuber, A., and Mankowski, J., "Simulation of an S-band MILO with Adjustable Beam Dump," *Plasma*, 2 (2), 2019.
11. Shaw, Z., Garcia, A., Powell, M., Dickens, J., Mankowski, J., and Neuber, A., "Direct observation of electrons in microwave vacuum components," *Review of Scientific Instruments*, 90 (5), 054702, 2019.
12. Nguyen, H., Mankowski, J., Dickens, J., Neuber, A., Joshi, R. P., "Calculations of Multipactor Growth in Rectangular Waveguides," *IEEE Transactions on Plasma Science, 47*(2), 2019.
13. Collier, L., Buntin, T., Dickens, J., Mankowski, J., Walter, J., Neuber, A. "Magnetic Field Diffusion in Medium-Walled Conductors," *IEEE Transactions on Plasma Science, 47*(1), 1024—1031, 2019.
14. Qiu, X., Mankowski, J., Dickens, J., Neuber, A., Joshi, R. "Model Evaluations of Surface Modification by Energetic Incident Carbon Atoms on Graphene Coated Copper Electrodes," *Physics of Plasmas, 26*, 013501, 2019.

Invited Presentations

1. Mankowski, J., Invited Presentation, "Compact Pulsed Power at Texas Tech University," *47th IEEE International Conference on Plasma Science (ICOPS), Singapore,* December 6-10, 2020.
2. Mankowski, J., Kelly, P., Dickens, J., and Neuber, A., Invited Paper, "Development and Characterization of a Compact Hard-Tube Reflex Triode Vircator System using Particle-In-Cell Modeling," *43rd IEEE International Conference on Plasma Science (ICOPS),* Banff, Alberta, Canada, June 19-23, 2016.
3. Esser, B., Dickens, J., Mankowski, J., and Neuber, A., Invited Paper, "Next Generation Ionospheric Heater Antenna," *43rd IEEE International Conference on Plasma Science (ICOPS),* Banff, Alberta, Canada, June 19-23, 2016.
4. Mankowski, J., Plenary Talk 2014 EuroAsian Pulsed Power Conference, Kumamoto, Japan, "Recent pulsed power efforts at TTU," September 2014.

Professional Development

Professional Engineer in Texas, California, Georgia, Colorado, Nebraska, Indiana, New York, Massachusetts, Florida, and Wisconsin as of 2022
Technical Chair, 2021 IEEE Pulsed Power Conference, Denver, CO.
Technical Committee Member and Session Chair, Euro-Asian Pulsed Power Conference, 2018.
Lead organizer, Pacific Symposium on Pulsed Power 2017 and 2019.