Abstract Submitted
for the GEC16 Meeting of
The American Physical Society

A self-consistent global model of surface wave discharges with cylindrical or co-axial structures: Ar or O2 fed with continuous or pulse-modulated power input[1] EFE KEMANECI, Institute for Theoretical Electrical Engineering, Ruhr University Bochum, FELIX MITSCHKER, MARCEL RUDOLPH, Institute for Electrical Engineering and Plasma Technology, Ruhr University Bochum, DANIEL SZEREMLEY, DENIS EREMIN, Institute for Theoretical Electrical Engineering, Ruhr University Bochum, PETER AWAKOWICZ, Institute for Electrical Engineering and Plasma Technology, Ruhr University Bochum, RALF PETER BRINKMANN, Institute for Theoretical Electrical Engineering, Ruhr University Bochum — A series of cylindrical and co-axial surface wave discharges fed with either argon or oxygen is modelled by a zero-dimensional global modelling approach. Compared to a recent study of the cylindrical surface-wave discharges (Kemaneci et al 2015 J. Phys. D: Appl. Phys. 48 435203), a self-consistent estimation of the edge-to-center ratios are analytically defined and extended to include the co-axial structures. The simulation results are compared with the experimental data of the considered discharges for continuous and pulse-modulated power input and a good agreement is obtained.

[1]Deutsch Bundesministerium fur Bildung und Forschung via PluTO+

Efe Kemaneci
Institute for Theoretical Electrical Engineering, Ruhr University Bochum

Date submitted: 09 Jun 2016 Electronic form version 1.4