

Abstract Submitted  
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**Spatially resolved modeling of the plasma series resonance excitation in capacitively coupled plasmas** SCHABNAM NAGGARY, DENNIS ZIEGLER, MARTIN LAPKE, THOMAS MUSSENBROCK, RALF PETER BRINKMANN, Ruhr University Bochum, MICHAEL KLICK, Plasmatrix GmbH Berlin — It is widely acknowledged that the excitation of the plasma series resonance can be important for the heating of capacitively coupled plasmas. This holds particularly for the asymmetric case. Fundamental studies on this phenomenon has recently been performed by means of various nonlinear global models. However, it has been shown that only a spatially resolved model can describe the complete fine structure of the very complex nonlinear dynamics. [1] In this paper we discuss the excitation of the plasma series resonance using a spatially resolved model of an asymmetric capacitive discharge. It allows for a realistic geometry as well as for a simplified but self-consistent sheath model.

[1] T. Mussenbrock and R.P. Brinkmann, Plasma Sources Sci. Technol. **16**, 377 (2007).

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