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Modeling of inductively coupled plasmas at low pressure conditions SOTIRIS MOUCHTOURIS, GEORGE KOKKORIS, Institute of Nanoscience and Nanotechnology, NCSR Demokritos, PLASMA GROUP TEAM — Low pressure inductively coupled plasmas are simulated with a hybrid plasma model [1] which couples fluid with Maxwell's equations and a Monte Carlo (MC) particle tracing model for the calculation of the ion mobility in the sheaths. The case study is Ar plasma in the GEC reference cell. Instead of using a MC model for the calculation of the electron energy distribution function (EEDF), a generalized EEDF is formulated; it depends on the local plasma potential and captures the deviations from the Maxwellian EEDF at low pressure conditions [2]. The model results are compared with spatially resolved measurements [3] of electron density, electron temperature, plasma potential, and ion current density on the wafer at different power and pressure conditions. Additionally, the ion energy and angular distributions on the wafer are calculated by a MC model and validated by a comparison with experimental measurements. [1] Mouchtouris S and Kokkoris G 2016 Plasma Sources Sci. Technol. 25 025007 [2] Godyak V A, Piejak R B and Alexandrovich B M 2002 Plasma Sources Sci. Technol. 11 525-43 [3] Miller P A, Hebner G A, Greenberg K E, Pochan P D and Aragon B P 1995 J. Res. Natl Inst. Stand. Technol. 100 427

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