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Numerical investigation on capacitively coupled chlorine discharge. TAESANG LEE, CHOONGSEOCK CHANG, Korea Advanced Institute of Science and Technology — PIC methods using Monte Carlo collision have been extensively used for the study of chlorine plasma. In our study we introduce a self-consistent particle model for capacitively coupled chlorine discharge which considers motions and collisions of neutral species as well as of charged particles. Chlorine discharge is highly electro-negative which requires long discharge time for steady state where the negative ion population dominates over that of electrons. Multi-scale simulation technique is developed to simulate both plasma steady state and steady state of plasma to neutral gas dynamics. Precise structure of multi-scale simulation method and preliminary results will be shown.

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