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Modelling of a breakdown phenomena in dual-frequency discharges MARIJA RADMILOVIC-RADJENOVIC, BRANISLAV RADJENOVIC, Institute of Physics — Gas breakdown represents the first step in generation of plasma and therefore is one of the most fundamental processes. In large scale systems, the experimentally observed Paschen law has been successfully explained by the Townsend theory. This paper contains the results of the detailed simulation studies of low-pressure gas breakdown in dual-frequency rf discharges in argon. Calculations were performed by using a Particle-in-cell/Monte Carlo collisions (PIC/MCC) code with the secondary emission model adjusted to include the energy dependence of the secondary electron yield at large separations. The obtained simulation results represents breakdown voltage curves that disctate the breakdown voltage for a particular gas as a function of the pd product for dual- freqnecy discharges in argon.

Marija Radmilovic-Radjenovic
Institute of Physics

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