

Abstract Submitted  
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**Metastability of Intrinsic Fluctuations of Grain Charge Caused by Secondary Electron Emission** BABAK SHOTORBAN, The University of Alabama in Huntsville — The effect of the secondary electron emission (SEE) on the grain intrinsic charge fluctuations was studied through a Markov approach in plasmas where a grain collects ions and electrons. Caused by SEE, the grain charge could have bistable macrostates. It was also shown that the fluctuations could be metastable, which is characterized by two time scales - one associated with the fluctuations around either macrostate and another associated with the random time intervals at which spontaneous transitions between the two macrostates occur. The study was conducted for various grain sizes, and plasma and grain charging parameters.

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