Physics > Plasma Physics

Mechanism of Stepped Leaders in a Simple Discharge Model

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(Submitted on 21 Jul 2011)

We construct a one-dimensional model for the stepped leader in the filamental discharge by simplifying an electric-circuit model of discharge. We find that the leader of the discharge moves stepwise by direct numerical simulations, and then we try to understand the mechanism of the stepwise motion by reducing the spatially extended system to the dynamics of the tip position of the discharge.

Comments: 4 figures
Subjects: **Plasma Physics (physics.plasm-ph)**; Pattern Formation and Solitons (nlin.PS)
Cite as: **arXiv:1107.4211 [physics.plasm-ph]**
(or **arXiv:1107.4211v1 [physics.plasm-ph]** for this version)

Submission history

From: Hidetsugu Sakaguchi [view email]
[v1] Thu, 21 Jul 2011 09:31:52 GMT (568kb)

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