Physics > Fluid Dynamics

Heat flux modulation in domino dynamo model

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(Submitted on 13 Apr 2012)

Using domino dynamo model we show how variations of the heat flux at the core-mantle boundary change frequency of geomagnetic field reversals. In fact, we are able to demonstrate effect known from the modern 3D planetary dynamo models using ensemble of the interacting spins, which obey equations of the Langevin-type with a random force. We also consider applications to the giant- planets and offer explanations of some specific episodes of the geomagnetic field in the past.

Subjects: **Fluid Dynamics (physics.flu-dyn)**
Cite as: **arXiv:1204.2901v1 [physics.flu-dyn]**

Submission history

From: Maxim Y. Reshetnyak [view email]
[v1] Fri, 13 Apr 2012 07:24:40 GMT (1193kb)

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