

Geomagnetic diagnosis of the Earth's fluid core turbulence on the basis of large deviations

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A b s t r a c t: The state of the Earth's fluid core is usually investigated on the basis of the observed features of geomagnetic variations at the Earth's surface. This task also involves difficulties associated with shorter time scale variations of internal origin which appear to be undistinguishable from the external fields, at least on the time scale of years or decades. In this paper a new method is proposed which may separate internal and external field variations on the basis of their scaling and singularity properties.

Key words: geomagnetic field, multifractal scaling, MHD turbulence

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