

REGIONAL FEATURES OF THE GEOMAGNETIC FIELD SECULAR VARIATIONS

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It is indicated that data of high vector satellite survey make it possible to distinguish and quantitatively describe three different processes in the geodynamo hydrodynamic system with different spatial and temporal characteristics.

The first one is the longest secular variation which describes the main cycle of the hydromagnetic dynamo and displays as a change in the magnitude and direction of the dipole field vector. The second kind of variations are those of the middle latitude world anomalies which are considered as the manifestation of waves caused by magnetic Archimedean Coriolis forces (MAC waves) on the Earth's surface. And at last the rapid variations with characteristic times of several decades can be interpreted as an interaction between MAC waves, which results in the stochastic process of floating of magnetized core matter masses along the boundary of structures within the core responsible for global anomalies.

The westward drift of the Brazilian anomaly is similar to a solitary wave of the soliton type. The quantitative estimations of grow/decay of the foci in middle latitudes as well as structure and velocity of a drifting anomaly in equatorial latitudes were derived.

Spatial-time characteristics of the geomagnetic field , secular variations, world anomalies

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