



About probability of relationship between local anomalies of the main geomagnetic field and the lower mantle plumes.

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We have been developing the model of the main geomagnetic field (MGMF) sources for the several last years. As a result we were successful to separate local anomalies of MGF and to localize its possible sources. It was obtained that these sources coincide with the core-mantle boundary and even penetrate to lower mantle. What is more they are located near the tectonic plate boundaries and global tectonic faults or in the close vicinity of the hot spots. The comparison with known plumes was carried out. As a result at least 4 sources can be associated with Hawaii, Easter, Kerguelen and Coral Sea plumes which roots according to seismic data go deep into lower mantle. As for E. Australia, Bowie and Iceland plumes there isn't any common opinion about a depth of their roots but sources of local anomalies of MGF can be associated to these plumes. It is supposed that processes occurring into roots of the lower mantle plumes are able to generate a magnetic field which is developed as a local anomaly of MGF. So the fact that the plume is accompanied by a source of a local magnetic anomaly can serve as a supplementary argument in favour of deep roots of that plume. The probable model of generation of magnetic field by processes into the plume deep roots is suggested.