



Movement of the North Magnetic Pole as a result of processes in inner liquid core.

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According to the Geological Survey of Canada the velocity of the North Magnetic Pole movement increased up to 40 km per year since about 1970 and if the NMP maintains its present speed and direction it will reach Siberia to 2050. This paper is to analyze the motion of NMP on the base of the model of the sources of main geomagnetic field (MGF).

The model developed by authors consists of the set of dipoles, reflecting most completely the spatial distribution of MGF. Up to now besides of the main dipole model includes 12 dipoles which life time is more then 100 years and 6 dipoles existed within 30-80 years. The parameters of these sources are observed to be continuously changing with time within the considered 100-year interval from 1900 to 2000.

For each epoch the hypothetical location of the NMP was calculated in two variants. Firstly main dipole was only taken into account. It was obtained the movement of the Pole was mostly determined by the change of the inclination of the magnetic moment of main dipole. Secondly all sources of the model were included into the calculation. Result was the motion of the Pole essentially depended on the dynamics of sources, discribing the non-dipole part of the geomagnetic field.

The long-term prediction of the change of parameters of these sources is difficult and unreliable because of complicated form of their time dependence. We used the filter of linear prediction to calculate the probable location NMP with two filtering variants. Because of non-sufficient length of series we were confined to compute up to 2015 only. From the obtained results it can be conjectured that the speed of the Pole motion will decrease. This work is supported by RFFI grant No 05-05-64181