



Results of paleomagnetic studies of Devonian dykes of the NE part of the Baltic Shield

Svetlana Botsun (1), Roman Veselovskiy (1), Andrei Arzamastsev (2), Anna Fetisova (1), and Aleksandr Koptev (1)

(1) Moscow State University, Geological, Moscow, Russian Federation (ramzesu@ya.ru), (2) Geological Institute of the Kola Science Centre of the Russian Academy of Sciences, Apatity, Russian Federation

Baltic shield in the Devonian was the scene of large-scale alkaline magmatism which appears in the formation of alkaline-ultramafic massifs and dykes of different composition and structure. According to modern concepts the origin of the intraplate alkaline magmatism associated with mantle plume (plume-lithosphere interaction). The appearance of plumes are connected with deep mantle processes and may be an indication of the unstable state of the inner shells of the Earth, which may make some disturbance in the generation of the geomagnetic field. In addition it is assumed that the origination of mantle plumes is associated with the processes of amalgamation and destroying of the supercontinents. Therefore, the determination of the geodynamic pattern of Fennoscandia craton in Devonian is an important geological task.

Our paleomagnetic study of Devonian magmatism in the Kola Peninsula has the following tasks: 1) obtaining reliable paleomagnetic data for the Devonian dykes of Fennoscandia, which are almost fully absent, and 2) classification of the studied dykes based on the paleomagnetic characteristics (we will try to separate dyke swarms), and 3) construction of geodynamic reconstructions of Fennoscandia for the Devonian.

In summer 2009 we performed field work within the north-eastern part of the Baltic shield, in which dykes of tholeiitic and alkaline zones of Devonian magmatism were sampled. In this report we present the results of our paleomagnetic studies.

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