

Devonian paleomagnetic data on the East European Platform in the context of the problem of complicated magnetic field record and the presence of atypical Devonian components

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The Devonian field problem is an actual question of Paleozoic paleomagnetism. The available data are controversial, and it is difficult to obtain reliable paleomagnetic data because of the widespread remagnetization of Devonian rocks and the low value of natural remanent magnetization.

The results of studies of magmatic rocks indicate a complicated configuration of the Devonian magnetic field. This, together with the low paleointensity, may indicate its multipolarity and, as a consequence, the presence of atypical (different from the expected) field components. This, in turn, calls into question paleotectonic reconstructions and magnetic polarity scales for the Devonian time, since they are based on the central axial dipole hypothesis.

Despite the complexity, the study of the geomagnetic field purely from magmatic rocks does not allow us to reconstruct a continuous paleomagnetic record and it is discrete in this case. Therefore, in order to confirm the hypothesis of multipolarity of the Devonian geomagnetic field, it is necessary to study objects not only from magmatic but also from sedimentary rocks. The sediments of the East European Platform and its surroundings are one of the available objects for solving this problem. In this paper, we summarize the data obtained in this region from the 1970s to the present time, including our preliminary results.

This work was financially supported by the Russian Science Foundation grant 23-27-00461, <https://rscf.ru/project/23-27-00461/>.