

Paleomagnetism of the Lower-Middle Riphean intrusions of the Bashkirian megazone (the Southern Urals): Implications for the paleotectonic reconstructions of the East European raton

Anton Latyshev (1,2), Maya Anosova (2), and Alexey Khotylev (2)

(1) Institute of Physics of the Earth RAS, Moscow, Moscow, Russian Federation (anton.latyshev@gmail.com), (2) Lomonosov Moscow State University, Geological Faculty, Moscow, Russian Federation

We present the results of the detailed paleomagnetic and rock-magnetic investigation of the Riphean intrusions of the Kurgassky complex from the Bashkirian megazone (western slope of the Southern Urals). The new paleomagnetic pole for the boundary of the Lower and Middle Riphean of the East European Craton (1349+/-11 Ma) is calculated from 8 thin sheet intrusions. Plat=8.4°; Plong=162.4°; A95=4.1°. Arguments in favor of the primary origin of the remanence and the absence of significant tectonic dislocations near the sampled intrusions are discussed.

Furthermore, from 11 intrusive bodies we obtained the pole of Later Paleozoic syn-collisional remagnetization. The comparison of mean paleomagnetic directions for the different studied regions demonstrates the absence of any traces of essential rotation of blocks within the Bashkirian megazone in the Later Paleozoic.

Analysis of the anisotropy of magnetic susceptibility revealed the significant role of the shear zones during the emplacement of intrusions. It was shown that the regional Bakal–Satka shear acted as the long-lived magma feeder zone and controlled the emplacement of the Berdyush rapakivi pluton and dikes of the Kurgassky complex in the Lower – Middle Riphean.

This work was supported by RFBR (project № 17-05-01121).