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Position of the East European Craton during 1.45-1.35 Ga according to the paleomagnetic data

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Over the past two decades a number of Proterozoic reconstructions of the East European craton (EEC) have been proposed. Nevertheless its position during Riphean is still debated. There are only four “key paleomagnetic poles” available for EEC: ca. 1.63, 1.57 and 1.56 Ga were obtained on dykes of Rapakivi age and ca. 1.265 Ga from Jotnian dykes and sills of Central Scandinavian Dolerite Complex (Buchan et al., 2000). According to these data, EEC at 1.56-1.57 and 1.63 was also at low paleolatitudes and approximately the same orientation as observed at 1.265 Ga. However after Svecofennian orogeny at ca. 1.9-1.8 Ga, the next important stage of development were at the Middle Riphean time (ca. 1.45 Ga) than riftogenous processes took place at Fennoscandian Shield. Most of the processes took place at western Fennoscandian Shield where magmatic complexes of rapakivi-granites and associated dykes, and riftogenous structures with basic dykes were formed. In Russia, Middle Riphean complexes occur at Lake Ladoga region and the South Urals (Bashkirian anticlinorium). Magmatic complex of Lake Ladoga region represents by sills (Valaam and Mantsinsaari), dyke swarms (thick Sortavalites dykes and thin aphanitic dykes) and flow of basalts (Salmi formation). Gabbro-monzonite-syenite of Valaam sill is dated by 207Pb/206Pb as 1459ś3 Ma (T. Ramo, et al., 2005) and Salmi basalts - 1457ś2 Ma (Bogdanov et al., 2003). Chemical composition of the dykes corresponds to the Salmi basalts which are thus regarded as the age of the dykes (Vasilieva and Frank-Kamenetsky, 2002). Magmatic rocks of Mashak Formation (mostly dolerites dykes and sills) which dated as 1341ś41 Ma by Rb/Sr method and 1350ś30 Ma by U/Pb methods were collected at the South Urals. Paleomagnetic and rock magnetic measurements were performed using JR-5A spinner-magnetometer at Paleomagnetic Lab-

oratory of VSEGEI (St. Petersburg, Russia) and 2G cryogenic magnetometer at Laboratory for Paleomagnetism of Geological Survey of Finland. Both alternating field and thermal demagnetizations were carried out. Two remanence components were separated on magmatic rocks from Lake Ladoga region. The intermediate coercivity component has Tup up to 380-440žC and coercivities $<$40 mT. Its shows single polarity and directed NE with shallow positive inclination. Paleomagnetic pole position corresponding to this component lie on the Late Paleozoic - Triassic APWP of Baltica. High coercivity component has Tup up to 590žC and coercivities $>>$90 mT. Positive contact test support the primary origin of this component. Paleomagnetic poles corresponding to high coercivity component direction of Lake Ladoga region demonstrate north-western displacement from older Valaam sill to Salmi basalts and younger aphanitic dykes and places EEC in a near-equatorial position at that time. High-temperature component (Tup up to 480-590žC), obtained on Riphean rocks from the South Urals, is demonstrate dual-polarity characteristic remanence. Reversal test is positive. According to the synfolding analysis, the most part of magnetization was formed at the beginning stage of folding (15-20%). If accept the Middle Riphean age of folding (Rasulov, 2002; Fershtater et al., 2003), it's necessary to conclude the primary origin of magnetization. Paleomagnetic data from the margin part of the platform were recalculated to the coordinates of the "stable" EEC (60žN 30žE). Comparison of the new paleomagnetic data allow to assume the Poleward Displacement at -4.7ś5 and anticlockwise rotation 22.4ś5.6 between 1.45 and 1.35 Ga. During this time interval EEC moved from 13.9 to 10.3 N latitudes.