

Early Paleoproterozoic paleogeography of Karelian and Superior Cratons: new paleomagnetic and AMS data from 2.45–2.1 Ga mafic intrusions

N. V. LUBNINA¹, A.V. STEPANOVA², N. A. TARASOV¹

¹Lomonosov Moscow State University, Leninskie Gory, 1,
Moscow, Russia. natalia.lubnina@gmail.com

²Institute of Geology, KAR RC RAS

New paleomagnetic and AMS data from the Early Paleoproterozoic mafic dykes and layered intrusions and Archean host rocks within the Karelian Craton have been obtained. Three groups of dykes have been collected within Pyaozero area of Central Karelian terrane. All these dykes were typified based on the AMS data.

All mafic intrusions carried two or three stable components. Most typical is component of intermediate down to the NNW, corresponds to the Svecofennian remagnetisation [1]. The middle temperature component pointed to the NNE down were also identified intrusions. We assumed that this component was formed as a result of chemical remagnetization under the hydrothermal alteration at ca 1.79 Ga. Component of SE intermediate down direction yielding a paleomagnetic pole 2.45 Ga based on a positive baked contact test.

The new paleomagnetic data from the Karelia Craton compared to similar-aged paleomagnetic data from the Superior Craton does not support the recently proposed Superia configuration [2].

We propose a new Early Paleoproterozoic paleogeography at 2.45–2.1 Ga for the Karelia and Superior craton.

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[1] Mertanen, S. 1995: Ph.D. thesis. *Geol. Surv. of Finland, Espoo*, 46 pp.

[2] Bleeker, W. & Ernst, R. 2006: *Taylor and Francis/Balkema, London*, 3–26.