southern Finland (Kara et al. 2016). The magmatism occurs as NW-SE trending dykes and small intrusions which crosscut the surrounding migmatitic country rocks. The magmatism can be divided into three different varieties based on their geochemical and isotopic characteristics: i) high niobium basaltic dykes (HNB), ii) high magnesium basaltic dykes (HMB) and iii) high silica adakite-like rocks (HSA).

The HNB are alkalic and enriched in HFSE, particularly Nb (>20 ppm) and show high LREE, P_2O_5, TiO_2 and F contents. In-situ zircon Hf-analyses show very high average initial ε_{Hf} value of c. +10. The HMB exhibit high MgO (up to 12 wt%) and Cr concentrations and show high average initial ε_{Hf} values of c. +3 and +5 (two dykes). The HSA group is enriched in Sr and LREE and depleted in Y (<20 ppm) and Yb (mostly <1.9 ppm) among the other high silica adakite characteristic signatures (Martin et al. 2005). Two HSA-intrusions exhibit average initial ε_{Hf} value of zero and c. -3.

The ages as well as geochemical and isotope data are clearly different from the adjacent, c. 1.90-1.88 Ga, arc-related igneous rocks suggesting a different kind of petrogenesis for these two age groups. The similar ages and close spatial occurrences support a genetic link between the 1.86 Ga groups. However, separate sources are likely due to differences in geochemistry and isotope signatures.

ORAL

Paleoproterozoic Inari orocline of northern Fennoscandia: progressive or secondary orocline

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Oroclines are curvatures of previously linear arcs (or belts), and are divided into two main types: progressive and secondary (Johnston et al., 2013). Progressive oroclines are formed by strain heterogeneity experienced during progressive thin-skinned thrusting: a common feature of modern orogens. Secondary oroclines are formed in response to an orogen-parallel shortening, as witnessed by Paleoproterozoic coupled Bothnian oroclines of Fennoscandia (Lahtinen et al., 2014). The main component of the Inari orocline is the Lapland granulite belt (LGB) having an arcuate shape geometry in the northern Fennoscandia. Recent studies of Tuisku and co-workers (e.g., Tuisku et al., 2006; 2012; cf. Cagnard et al., 2011) provide a solid base for the age and tectono-metamorphic history of the belt. Based on the existing studies, new field and age data, and re-interpretations of geophysical data, we propose following stages for the evolution of the LGB: 1) extension and intrusion of enderbites at ca. 1.92 Ga in a linear rift basin; 2) thrusting and recumbent folding during basin inversion at 1.92-1.91 Ga leading to peak metamorphic conditions; 3) intrusion of post-collisional appinites at ca. 1905 Ma; 4) extension and decompression melting at 1.90-1.88 Ga; 5) renewed shortening of the linear orogen at 1.88-1.87 Ga that lead to upright folding and SW vergent thrusting; 5) orogen-parallel shortening at ≤1.87 Ga. Our preliminary interpretation is that the Inari orocline, including the LGB, is a secondary orocline formed during buckling about a vertical axis of rotation.

ORAL

New paleomagnetic and isotopic data for the Late Paleoproterozoic mafic intrusions in the Blekinge Province (southeastern Sweden)

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To the east of the Sveconorwegian orogen, the Precambrian bedrock in Blekinge contains granitoids of the Transscandinavian Igneous Belt to the north of the Småland-Blekinge

Deformation Zone (SBDZ), and the c. 1.76 Ga Tving granitoids in the south (Johansson et al. 2006). In this study, we have investigated the mafic intrusions cutting the Tving granitoids.

The new paleomagnetic and AMS examinations of the Tving granitoids in eastern Blekinge show NW-striking foliation parallel to the SBDZ. The studied mafic intrusions carry a stable component with shallow downward NNW direction. The primary remanence is supported by positive contact tests. New isotopic data for olivine gabbro and metabasic rocks using U-Pb baddeleyite and Ar-Ar amphibole geochronology suggested a protolith age of ca 1760 Ma for these rocks. The mean paleopole for these mafic intrusions from Blekinge thus corresponds to the c. 1.76 Ga pole for Fennoscandia.

In the entire Blekinge, AMS lineations mainly dip NW. The NNE upward overprint component is found in the Tving granitoids near the Karlskrona Deformation zone, that is close to that in the 1.45 Ga Karlshamn granites, probably due to regional heating and deformation of the Blekinge block (Čečys & Benn 2007). AMS and structural data indicate that the magnetic fabrics of the mafic intrusions are continuous and the metamorphic fabrics in the country rocks were formed during ENE–WSW compression, and can be referred to the Danopolonian orogeny. The new paleomagnetic pole is close to 1.45 Ga pole for Baltica (Lubnina et al. 2010).

ORAL

Early Paleoproterozoic paleogeography of Karelian and Superior Cratons: new paleomagnetic and AMS data from 2.45-2.1 Ga mafic intrusions of Central Karelian and Kianta terranes

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We present a new paleomagnetic and Anisotropy of magnetic susceptibility (AMS) data from the Early Paleoproterozoic mafic dykes and Archean host rocks within two terranes of the Karelian Craton, eastern Fennoscandian Shield. Three groups of dykes have been collected within Pyaozero area of Central Karelian terrane: NE-trending ca. 2450 Ma gabbronorite and diorite dykes, NW-trending ca. 2310 Ma dolerite dykes, and NNW-trending ca. 2130 Ma continental MORB-type tholeiitic dykes (Stepanova et al. 2014). All these dykes were typified based on the AMS data. Samples from 2130 Ma dolerite dykes within Tulos area of Kianta terrane were also collected.

The paleomagnetic results show that a strong Svecofennian overprinting is pervasive in the area.

All studied mafic dykes carried two stable components. Most typical is component of intermediate down to the NNW, corresponds to the Svecofennian remagnetisation (Mertanen 1995). Component of SE intermediate down direction yielding a paleomagnetic pole 2450 Ma based on a positive baked contact test is interpreted to represent the primary magnetization.

The paleomagnetic results for dolerite dyke within Tulos area show that a strong Svecofennian overprinting is pervasive in the area, based on a negative baked contact test.