

DID MESOPROTEROZOIC TRANSCURRENT/TRANSFORM STRIKE-SLIP FAULTS CONTROL ANOROGENIC MAGMATISM IN THE WESTERN PART OF THE EAST EUROPEAN CRATON?

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The entire western part of the East European Craton is marked by EW-trending packages of strike-slip faults that displace and bend Palaeoproterozoic crustal boundaries. The faults can be traced as long as 1000 and more km. They are well expressed by linear anomalies of gravity and magnetic fields and their high gradients, by strong reflectors reaching the Moho. The “doubled” Moho suggests thickening the lower crust and magmatic underplating while the crustal structure is complicated by distinct layers of lower or higher velocities indicating magmatic interplating. Both extensional and contractional strike-slip duplex models can be employed to explain the observed characteristics of the major E-W faulting zones and the distribution of 1.65-1.45 Ga anorthosite-rapakivi and other plutons, associated mafic dyke swarms, and grabens infilled by sediments and concomitant volcanics. The prominent general tendency of westward younging of the plutons in Fennoscandia may be a result of long-term development of the fault system in connection with the coeval convergent tectonics at western margins of the East European Craton.