

NEOPROTEROZOIC GRANITES OF THE YENISEY RIDGE (SIBERIA): PETROLOGY, GEOCHEMISTRY, AND GEODINAMICS

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The Yenisey Ridge is the south-western fold-nappe frame of the Siberian craton. The main Neoproterozoic tectonic events in this region were connected with collision Angara microcontinent and Siberian Paleocontinent and obduction oceanic and island arc complexes onto this continental margin. There are different types of granites - from syn-collision to post-collision (S, I and A-types) in the central zone of the Yenisey Ridge. The Isakov and Predivinsk island arc with ophiolite terranes include plagiogranites M and I types. The age of syn-collision granites is 900-800 Ma, post-collision - 800-600 Ma and island arc plagiogranites - 700- 640 Ma (U-Pb, Ar-Ar data). The range of REE content of syn- collision granitoids are as follows: total REE = 344-772 ppm; $(La/Lu)_{cn} = 9,9-24,9$, and $Eu/Sm = 0,17-0,38$. Post-collision granites, leucogranites are characterized by high content of total REE = 727-760 ppm; $(La/Lu)_{cn} = 3,4-30,9$, and negative Eu anomalies ($Eu/Sm = 0,019-0,047$). Post-collision granites also include granodiorites, and syenogranites, which are considerably enriched in rare and rare-earth elements and have the mantle isotopic characteristics (A-granite). These alkali feldspar-rich granites have no Eu anomalies ($Eu/Sm = 0,16-0,27$), high total REE = 474-1544 ppm and higher LREE/HREE ratios $(La/Lu)_{cn} = 27,05-46,3$ than those from first ones. Plagiogranites from the Predivinsk terrane have low total REE = 34,3-60 ppm, $(La/Lu)_{cn} = 3,0-21,5$ and are typical formations of ensimatic island arcs. They contain small or no Eu anomalies ($Eu/Sm = 0,27-0,39$) as in dacite and andesite this complex.