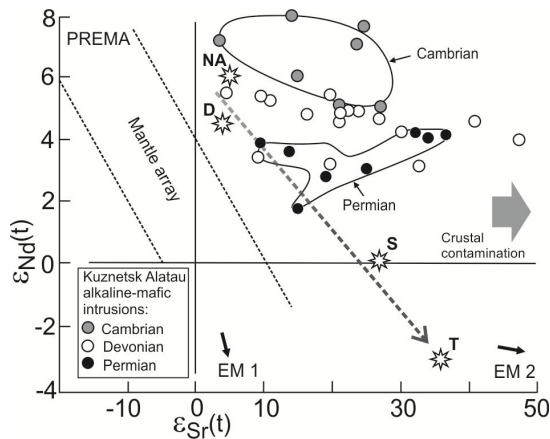


Nd-Sr-Pb-O isotopes of Paleozoic alkaline intrusions from Kuznetsk Alatau Mountains, Siberia

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Paleozoic (~ 500, 400, 265 Ma) alkaline-mafic plutons form a small magmatic province in the Northern Kuznetsk Alatau. The LILE and HFSE patterns of igneous rocks suggest an intrusion in a complex tectonic setting during interaction of mantle plume with accretionary-collisional complexes from the continental margin. In that case, magma had a multicomponent source consisted of depleted PREMA-type mantle mixed with enriched EM-type mantle and suprasubduction components. This source composition is consistent with the Nd–Sr isotope ratios of alkaline rocks: ~ 3 to 9 $\epsilon_{\text{Nd}}(t)$; ~ 0.7042–0.7074 $^{87}\text{Sr}/^{86}\text{Sr}(t)$.



Participation of both depleted and EM 2 mantle is also confirmed by initial Pb isotope ratios in rocks and minerals ($^{208}\text{Pb}/^{204}\text{Pb}$ 37.49–38.12; $^{207}\text{Pb}/^{204}\text{Pb}$ 15.53–15.71; $^{206}\text{Pb}/^{204}\text{Pb}$ 17.92–20.65). Meanwhile, correspondent increase in $^{87}\text{Sr}/^{86}\text{Sr}(t)$ and $\delta^{18}\text{O}_{\text{V-SMOW}}$ (6.3–15.5 ‰) values along with rock enrichment in ^{207}Pb indicate effects of crust contamination.

The study was supported by grants of Russian Government (no. 14.Y26.31.0012) and Ministry of Science and Higher Education of the Russian Federation (no. 5.8988.2017/6.7).