Isotopic (Sr-Nd-Pb) and geochemical characteristics of basalts and mantle xenoliths of Dariganga plateau, MPR

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The Dariganga plateau in the Central Asian region is the result of intraplate Late Cenozoic magmatism [1]. The plateau is composed of basalts, trachybasalts, basanite bearing xenoliths of spinel lherzolites and pyroxenites.

New data on geochemical characteristics and the isotopic composition of Nd, Sr, Pb in basalts and xenoliths were obtained. The trace elements composition of the Dariganga plateau basalts corresponds to the OIB-type. The ratio $^{143}Nd/^{144}Nd$ varies in the range 0.51296-0.51284, $^{87}Sr/^{86}Sr$ in the range 0.7041-0.7054, $^{206}Pb/^{204}Pb$ in the range 18.236-18.513. There is no geochemical evidence of recicled lithospheric material in the source of the basalts. According to these data, we conclude that the enriched source of basalts is EMII, presumably, metasomatized mantle. The Sr-Nd-Pb isotopic composition of the metasomatized spinel lherzolites xenoliths also supports this conclusion.

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