

## NEODYMIUM AND STRONTIUM ISOTOPES OF BASALTS FROM THE DOUPOVSKÉ HORY MTS. (BOHEMIA)

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Primitive alkaline basalts originated from lavas ascending from deep regions where they were derived by partial melting of peridotites. Thus their Sr and Nd isotope compositions sample the source regions.

The Cenozoic Central European Volcanic Province (CEVP) forms a volcanic chain approximately 750 km long. It begins in Eiffel in the West and continues through Germany to the Czech Republic and Poland. The easternmost occurrences of basalts are in Moravia (Czech Republic). From the territory of Bohemia and Northern Moravia, Nd and Sr isotopes in alkaline basalts have been already studied. However, from the Doupovské hory Mts., the largest Bohemian Cenozoic volcanic area, only a few Sr and Nd isotope determinations have been published so far.

To fill this gap and obtain the largely missing Sr–Nd data from the central part of the Doupovské hory Mts., we have studied 11 samples of basaltic rocks. Their present-day  $^{87}\text{Sr}/^{86}\text{Sr}$  isotope compositions fall into interval of 0.703634–0.704376 and  $^{143}\text{Nd}/^{144}\text{Nd}$  into interval of 0.512740–0.512845 (Tab. 1). These Sr isotope compositions are, on average, shifted towards more radiogenic, and Nd isotope compositions towards less radiogenic values, compared to data from other volcanic provinces in Bohemia and Northern Moravia. The latter fall into the range from 0.70313 (Moravia) to 0.70364 (West Bohemia) and from 0.512786 (West Bohemia) to 0.512908 (Moravia) for strontium and neodymium, respectively. Thus the Sr–Nd isotope ratios from the Doupovské hory Mts. do not follow the general trend across the CEVP, with  $^{87}\text{Sr}/^{86}\text{Sr}$  decreasing and  $^{143}\text{Nd}/^{144}\text{Nd}$  increasing from the West to the East. If crustal contamination did not influence the Doupovské hory lavas during their ascent, their source reservoir was probably enriched in LILE (large ion lithophile elements) compared to that of basalts elsewhere in Bohemia and Moravia.

Table 1: Present-day Sr–Nd isotopic compositions of basaltic rocks from the Doupovské hory Mts.

Sample	Rock type	$^{143}\text{Nd}/^{144}\text{Nd}$	$^{87}\text{Sr}/^{86}\text{Sr}$
Bublava 5	basanite	0.512813	0.703718
Bublava 1	basanite	0.512808	0.703634
Bublava 6	olivine basalt	0.512814	0.703706
DH 226	olivine basalt	0.512806	0.703650
DH 246	basalt	0.512787	0.704265
DH 229b	olivine basalt	0.512801	0.704376
DH 240	picritic basalt	0.512811	0.703694
DH 248	olivine basalt	0.512740	0.704317
DH 117	picritic basalt	0.512802	0.704072
DH 241	basanite	0.512845	0.703972
DH 262	olivine basalt	0.512797	0.704084