

# Stable Ba isotopes of Alpine mantle peridotites

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Barium is a highly incompatible and fluid-mobile lithophile element. Previous studies on basalts and metamorphic rocks from subduction zones have shown that Ba isotopes can reveal more details of the recycle of surface materials into the mantle. However, to our knowledge Ba isotopic data of mantle peridotites have not been investigated in detail. In this session, we report our new measurement of Ba isotope compositions of Alpine mantle peridotites. These samples include lherzolite, harburgite and pyroxenite which were not thought to have contained crustal and surface materials. The Ba isotope compositions of the investigated samples show large variations which we interpret as results of modifications by subduction and contamination of continental crust during the up-welling of the mantle materials. Our data suggest mantle peridotites, even the most clean and pristine ones, may have recorded mantle-crust interaction.