

## The platinum group elements (PGE) distribution in the minerals from the peridotites of the Udachnaya pipe (Yakutia)

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The olivines and sulphides in the deformed peridotites (the most enrichment rocks) and olivines in the dunites (the most depleted rocks) from the Udachnaya pipe have been analyzed for PGE by isotope dilution. Olivines from dunites and deformed peridotite show high PGE concentrations as well as ones from the depleted harzburgites of the Lherz massif (Fig. 1). But the PGE distribution of these two rock types is different. While PGE concentration in pure olivine megakryst from kimberlite four-five order lower than in rocks above and the pattern shape have another character.

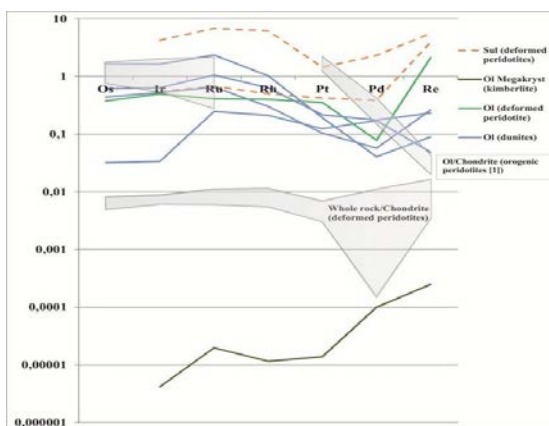


Figure 1: The PGE distribution in minerals from peridotites.

We assume that the sulphides are the main host mineral of PGE in our rocks [2]. Chondrite normalized PGE concentrations in the sulphides are three orders higher than that in the deformed peridotites whole-rock (Fig. 1). But the pattern shape is similar. We propose that these sulphides are probably the result of submicron sulphide phases skimming in the interstices of mantle rocks on the last stage the deformed peridotites evolution. Because olivine PGE concentration and the sulphide ones are approximately the same it is thought to be that olivines had micro-inclusions of the sulphides (Fig. 1).

[1] Luguet et al (2007) *Geoch. et. Cosmoch. Acta* 71, 3082-3097. [2] Alard et al (2000) *Nature* 407, 891-894.