

## **Podiform chromitites and PGE mineralization in the ophiolites of Eastern Sayan**

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Ophiolites are widely localized in the southeastern part of the Eastern Sayan (Siberia, Russia) in the form of extended (more than 100 km) belts. Ophiolites of southeastern of Eastern Sayan was formed in the different geodynamic setting [1]. Podiform chromitites and PGE mineralization have geochemical and mineralogical features, also indicating different geodynamic condition of formation [2, 3, 4, 5]. Ophiolites southern branch have MORB and supra-subduction geochemical features. The ore chromspinelides are divided on two groups. The first group has from high to average values of Al# (Al/(Al+Cr): 24÷60, Mg# (Mg/(Mg+Fe<sup>2+</sup>)): 45÷74, indicating spreading geodynamic setting. The second group has low values of Al#: 14÷23 and high values of Cr#: 74-81, indicating supra-subduction setting. The PGE mineralization consist of high-temperature solid-solution (OsIr-Ru) alloys and sulfides (Os,Ru)S<sub>2</sub>, sulfoarsenides (Os, Ir, Ru). Ophiolites of northern branch have supra-subduction geochemical features. The ore chromspinelides have low values of Al#: 10÷21 and high values of Cr#: 75÷85. The PGE mineralization are likely from chromitites of southern branch, but there is Pt-bearing phase or impurity of Pt in (Os-IrRu) alloys or sulfoarsenides. A distinctive feature is a abundant amount of remobilized PGE phases, such as Os<sup>0</sup>, IrRu, Ru<sup>0</sup>, (Ir,Ni,Fe), (RhNiAs) and etc., which indicates a high activity of a fluid. The ophiolite and chromitites of southern branch was formed at spreading setting and modified at suprasubduction setting. The ophiolite and chromitites was formed at supra-subduction setting.

[1] Dobretsov et al. (1992) *Prec. Res.* 58, 427-446. [2] Kiseleva et al. (2014) *Russ. Geol.&Geoph.* 55, 333-349. [3] Zhmodik et al. (2014) 12-th Inter. Platinum Symp., 221-222. [4] Kiseleva&Zhmodik (2017) *GF* 8, 721-731. [5] Kiseleva et al. (2018) EGU2018-727-2.

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