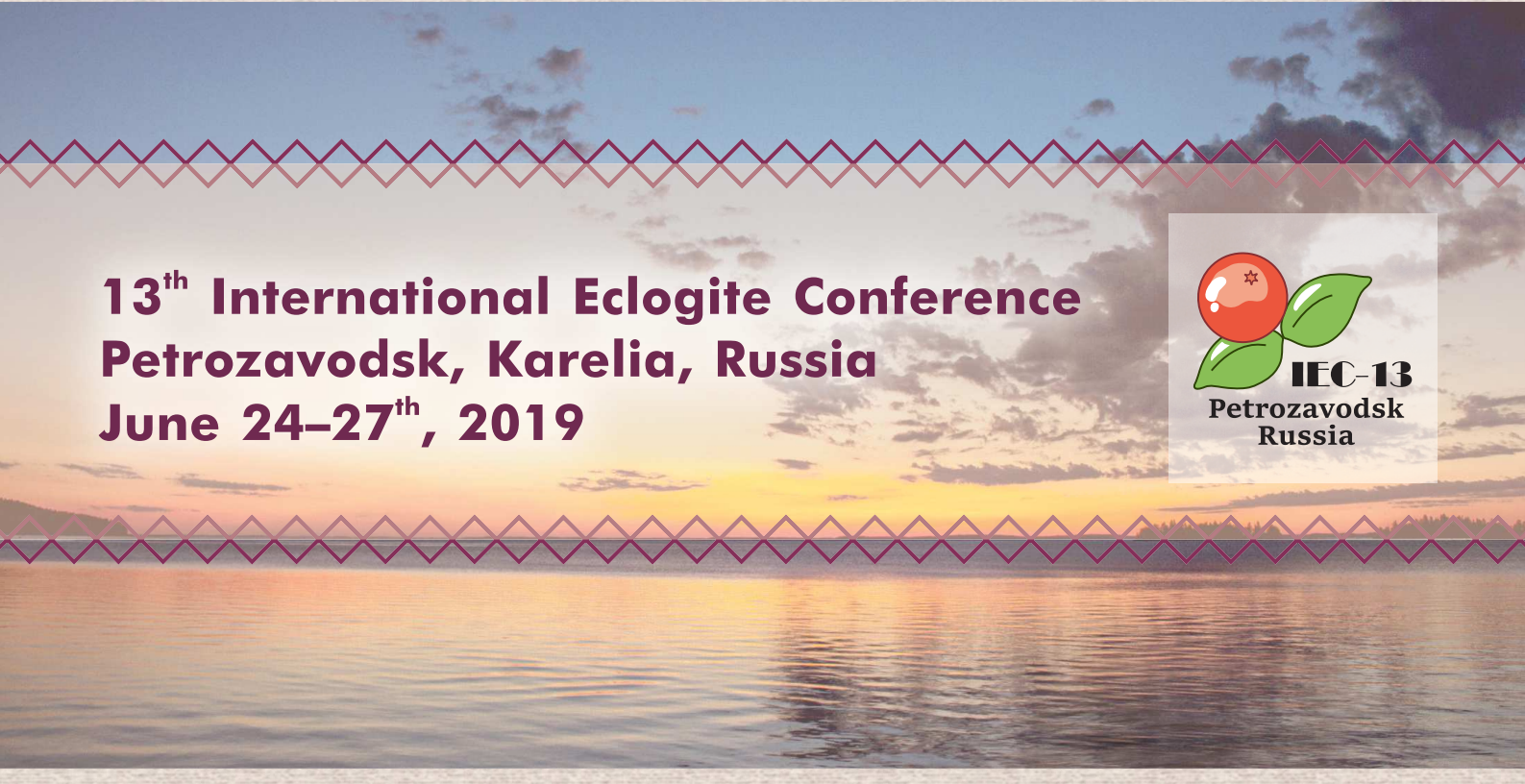

13th International Eclogite Conference
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The abstracts of the Conference cover the following topics: the chronology of eclogite-facies metamorphic rocks; eclogites in orogenic belts: geodynamic consequences; Garnet peridotites and mantle eclogites; The microstructures and microchemistry of high-pressure and ultra-high-pressure minerals; the chemical geodynamics of subduction zones; modelling of subduction zone processes.

The Abstract Volume is of interest for geologists, petrologists and geochronologists, who study HP-UHP processes at different stages of Earth's evolutions since Precambrian to nowadays.

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Phlogopite eclogite of the Marun-Keu Complex (Polar Urals) – PT conditions and absolute age data

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In the Polar Urals, the eclogite-amphibolite-gneiss Marun-Keu Complex is developed in the outer zone of the Ural folded belt. The "Mica Hill" area is the most studied to date. Materials can be found in numerous publications (e.g. Liu et. al., 2019, with refs.). This Complex is represented by a large number of blocks of massive garnet peridotites, metagabbro and eclogites located in a matrix of banded amphibolite-eclogite-gneiss rocks. To the north of the Mica Hills along the Nyakhar-Neo-Shor creek, there are found outcrops of the banded matrix rocks, with alternating gneisses, *Phen-Ky* eclogites, and amphibolites. During field work in 2017, we discovered phlogopite eclogite boudins among the *Phen-Ky* eclogites. This type of rocks for the Marun-Keu Complex was previously unknown. Alkaline basalt was the protolith of the phlogopite eclogite (wt.%, SiO_2 45.62; TiO_2 0.39; MgO 13.98; K_2O 3.71), now consisting of garnet (up to 2 mm in size), prismatic omphacite (up to 3 mm), and phlogopite flakes (up to 2–3 mm). The garnet core composition is $Gros_{18}Alm_{25}Pyr_{44}$, rim composition is $Gros_{24}Alm_{29}Pyr_{35}$; newly formed grains are Alm-richer ($Gros_{19}Alm_{37}Pyr_{29}$). Omphacite has an almost homogeneous composition (Jd component 33–38%, X_{Mg} 82-84). Phlogopite is also uniform in composition (X_{Mg} 81–83). The garnet cores contain numerous inclusions of kyanite, phengite, phlogopite and SiO_2, less often omphacite and amphibole developed after phlogopite, rims do not contain inclusions. Omphacite contains syngenetic garnet, phlogopite and phengite, and later clinozoisite, amphibole and albite. Phengite has Si = 3.23–3.25 apfu, Ti = 0.03 apfu. To estimate the PT conditions for the formation of these metamorphic parageneses, the TPF (Konilov et. al., 1995) program was used, as well as various geothermometers and geobarometers (Auzanneau et. al., 2010; Perchuk A., 1992). Peak metamorphism conditions for the phlogopite eclogite (cores of garnets and omphacites with syngenetic inclusions) correspond to the *Zo* subfacies of the eclogite facies at P = 28 kbar, T = 680 °C. Retrograde conditions documented by the formation of garnet and omphacite rims correspond to the *Amp-Zo* subfacies of the eclogite facies (P = 14 kbar, T = 652 °C); the small, newly-formed garnets and amphiboles reflect a later epidote-amphibolite facies stage (P = 11 kbar, T = 512 °C). The absolute, Ar-Ar age of phlogopite is 442.2 ± 5 Ma and records, in our opinion, the time of subduction; the known ages of 360 Ma reflect accretionary processes during the formation of the Ural orogen.

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