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New models of the structures and compositions of the large kimberlite pipes in Daldyn Alakite region, Yakutia

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New xenoliths from Zarnitsa (27) Udachnaya (30) Komsomolskaya (74) and Sytykanskaya (49) pipe.
In Zarnitsa several associations significant part of the xenoliths studied belong to the enriched Fe-Ti deformed peridotites, which are traced hot geotherm from 7 - 6 GPa. Dunites with sub-calcium garnets are from the cold lower part together with diamond inclusions.. In 4. -6 GPa garnet harzburgites prevail some of them contain richterites, phlogopites or Ilm-Cpx- Amph-Phl veins. Near the Moho boundary, various pyroxenites including Amph-bearing. Among the xenoliths, several metasomatic associations with amphiboles were found near Moho. Clinopyroxenes from peridotite xenoliths are enriched in REE, and some samples with inflections in Eu, Ce, possibly demonstrate the participation of the eclogite material.
Cpx, which are low in REE, exhibit complex spectra with very low LREE and strong depletion in Ba and have minima of Zr and Ba and a low content of incompatible elements. Fe- enriched Ilm - Cpx create two branches and give very high-T conditions.
Trace elements for low Cr Cpx show subparallel TRE patterns but slightly crossing in HREE without anomalies in Zr-Hf but with lower LILE and Nb-Ta. Eclogites mainly refer to the lower part of mantle section. Trace elements show Eu depressions and depletion in HFSE
In Udachnaya we especially analyzed ultradepleted associations which sometimes contain pyroxenes refer to the cold branch in lithosphere base,. The garnets and Px show S- tyoe REE and low levels incompatible elements The Ilm bearing peridotites refer to the contact zones of the megacrystalline Ilm aggregates which sometimes include Cpx TRE for Cpx show the enriched HFSE and low in lithophiles, U, Th but high in lithophiles. New seriaes of eclogites belonh to quite different types and differ in REE patterns.
Xenoliths from Komsomoslskaya pipe are quite different in the modal compositions from Gar dunites to Cpx enriched compositions most of them contain phlogopites but not in veins but mainly dissiminated type. Several Opx bearing harzburgites and pyroxenites were found referring to the upper SCLM part. SCLM near Moho is highly Fe- enriched.Middle part from 3.2 to 4.5 GPa is also higher in Cpx and refertillized, But the section from 5 to 6.5 it Fe-Ti enriched sometimes similar to porpyroblastic associations from Udachnaya but really deformed peridotites were not detected. The eclogitic associations refer to the two intervals 5.5 – 6.5GPa and 3.5 – 5GPa, the later are more Fe- rich.
Trace elements for the peridotite Cpx are enriched in the LREE and high in La/yb rations and high in LiLE higher than those from Sytykanskaya pipe.
High amount of new Opx-Ol beraing and xenoliths allowed to detalise the structures of the manle column Most of association refer to the low–T 35 mw/m2 geotherm/ But the high–T associations for the branch 5.5-7GPa. RFBR grant 05.-16-00860