Geochemical evolution of a symplectite from the Horoman: redistribution of trace elements on phase transition and metasomatism

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We examined textural and geochemical characteristics of a spinel-pyroxene symplectite in a lherzolite taken from the lowest part of the Horoman Peridotite Complex, Japan. The studied symplectite have approximately inherited both major- and trace-element signatures from pre-existing garnet. Disequilibrium distribution for HREE and Zr was caused by the slow diffusion rates of trace-element. Chemical equilibrium in LREE and Sr among minerals has possibly resulted from the metasomatism by LREE-enriched melts or fluids after or during formation of the symplectite.

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