

## Microstructural development of Machinoyama peridotites in the Yakuno ophiolite

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Machinoyama peridotite body is the eastern part of the Yakuno ophiolite in the Maizuru belt. In this body, residual peridotites crop out, but they have not at all been analyzed their microstructures. The aim of this study is to understand microstructural development of the peridotites as well as structural development of the Machinoyama body. Microstructural analyses indicate that ultramylonites have many dislocations despite of their ultra-fine grains (ca. 0.03 mm) and contain many clinopyroxenes whereas the coarser grained parts contain no clinopyroxenes. Crystal-preferred orientations (CPO) of olivine in the Machinoyama peridotites showed mainly (001)[100] patterns and locally (010)[100] pattern, and random patterns in ultra-fine domains. Aspect ratios of olivine decreased from coarse grains to fine grains, but increased from fine grains to ultra-fine grains. Serpentine in the Machinoyama serpentinites are mostly chrysotiles and lizardites. Serpentine matrix were intensely deformed, whereas serpentinite blocks in the matrix were hardly deformed. These suggest that serpentinite blocks and peridotites took place under the different conditions from the serpentinite matrix. One of possibilities is that the Machinoyama body has been originated in relation to a serpentine mud volcano. The serpentinite matrix could be originated in subduction zone and contain serpentinite blocks and peridotites during blowout.