High-Cr chromian spinel in serpentinized ultramafic rocks from Masuda area, the Sangun zone, southwest Japan

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There are many surpentinized dunite-harzburgite complexes with chromitite in the Sangun zone, Southwest Japan. Cr/(Cr+Al) atomic ratios (Cr#) of almost all spinels from the ultramafic rocks and chromitite of this area show range from 0.40-0.65 (e.g. Arai and Yurimoto, 1994, Matsumoto et al., 1997, 2002). However we found the high-Cr (range from 0.91-0.97) spinel form the new serpentinized ultramafic complex or mega-block (300m*200m*500m in size) from the Jurassic melange zone of Masuda area, Sangun zone, southwest Japan.

In this study, we show petrological characteristics of this rocks under the microscope and chemical feature of spinel, olivine, and opaque minerals (mainly sulfide minerals; pyrite, pentlandite and pyrrhotite). And we consider how high-Cr chromian spinel generation.

Arai et al (2006) cleary presented an idea for the origin of high-Cr chromian spinel of podiform chromitite from Rayat, northeastern Iraq at low tempreture alteration condition. However, high-Cr chromian spinel of Masuda area is not from chromitite but from ultramafic rosks. That is there are different condition between Rayat and Masuda area. In this presentation, we will show the preliminary idea of origin of high-Cr chromian spinel from the serpentinized ultramafic rocks.

[1] Arai and Yurimoto (1994): *Econ. Geol.*, **89**, 1279-1288.
[2] Matsumoto et al. (1997): *Resouce Geology*, **47**, 189-199.
[3] Matsumoto et al. (2002): *Shigen-Chishitsu*, **52**, 135-146.
[4] Arai et al. (2006): *Mineralogical Magazine*, **70**, 499-508.