

## Morphology and structures of ultrafine particles produced by reactions between Mg and SiO particles

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In order to make clear the correlation between particles and IR absorption spectra, new attempts on producing the metallic oxide particles have been carried out. Three type of evaporation methods for producing grains were done and the results among them have been discussed as the problem of vapor pressure control. Mixture particles among Mg<sub>2</sub>Si, MgO, Mg<sub>2</sub>SiO<sub>4</sub> and Si crystals were produced and characteristic morphology of the grown particles will be shown. IR absorption spectrum of the present specimen also showed typical Mg<sub>2</sub>SiO<sub>4</sub> peaks, in spite of the mixture particles. Since Mg-Si, Mg-O distances in Mg<sub>2</sub>Si and MgO are nearly coincident with that of Mg<sub>2</sub>SiO<sub>4</sub>, IR absorption spectra can not identified the structure of Mg<sub>2</sub>SiO<sub>4</sub>. Details on the structures of particles and spectra will be discussed.