

Simulation of space weathering in the laboratory: Changes of reflectance spectra of the planetary surface materials

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In order to simulate space weathering, we irradiated nanosecond pulse laser beam onto olivine, pyroxene, and anorthite samples. Reduction of reflectance and reddening are produced more easily in olivine samples than in pyroxenes samples. We newly measured the spectral change of anorthite pellet samples. An olivine crystal sample after pulse laser irradiation was observed by TEM but we observed no change of mineral structure. The feature of 510nm band was not significant in enstatite samples.