

Reflectance spectra of powders of major rock-forming minerals in the visible light

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Reflectance spectra are used to estimate the chemical composition of planetary surfaces. In this study, the visible reflectance spectra of powders of major rock-forming minerals were measured with simple equipment and differences among the minerals were identified. A spectrometer was made using transmission grating and a single-lens reflex camera, allowing the light reflected from the mineral powder to be observed spectrally. As a result, data regarding the intensity of the reflectance on each wavelength for each mineral was obtained.

It was concluded that simple visible light spectra measurement can be used to identify differences in the reflectance of minerals. It was also possible to identify specific absorption bands. Although not within the scope of the current study, there may be potential to identify minerals simply through the use of spectral images in future.

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