POLARIMETRIC AND PHOTOMETRIC PROPERTIES OF APOLLO LUNAR SAMPLES

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Abstract Polarization characteristics are given for visible and UV light scattered by Apollo samples; the information thus assembled may help to interpret polarization measurements for planets and asteroids. The results for Apollo 12 samples are compared with those for Apollo 11 samples and for telescopic observations of the Moon, especially as regards the relationship between albedo and the value of maximum polarization Pmax.; the distinction between mare and ray material is shown. The wavelength variation of albedo and Pmax. is discussed. The steep rise in albedo at small phase angles is investigated, and laboratory measurements agree well with Whitaker's results from Apollo 12 photographs. The effect of proton irradiation on albedo and polarization is investigated.

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