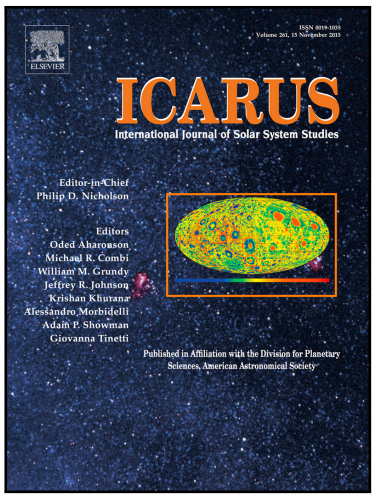

Laboratory Simulations of Planetary Surfaces: Understanding Regolith Physical Properties from Remote Photopolarimetric Observations

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Highlights

- We present reflectance and polarization phase curve measurements of highly reflective planetary regolith analogues having physical characteristics expected on atmosphereless solar system bodies (ASSBs) such as a eucritic asteroids or icy satellites.
- These results may explain the unusual negative polarization behavior observed near small phase angles reported for several decades on highly reflective ASSBs such as the asteroids 44 Nysa, 64 Angelina and the Galilean satellites Io, Europa and Ganymede.
- This is the first experimental demonstration of the HRP for polarized light, first proposed by Helmholtz in 1856.