

Model Images for Regolith Light Scattering

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Abstract

Model images show that the roughness degree of regolith, as well as of other materials, does not determine their light scattering properties

Fig-1 shows a smooth glass cup filled with milk, Fig-2 shows an egg with fine rough surface, and Fig-3 shows a tennis ball with a coarse rough surface. More images are in [https://www.researchgate.net/publication/358403822 Magic Balls](https://www.researchgate.net/publication/358403822_Magic_Balls) . The photos were taken with a flash in a dark room with a dark background. The photos look similar and they do not depend on the roughness level of the surface. There are no images, neither celestial, nor terrestrial, that obey Lambert's Cosine law. The only images that do obey the law, are rendered, images that are at least partly simulated.



Fig-1: A glass cup with milk

Fig-2: An egg

Fig-3: A tennis ball

The text and photos are cited from

[https://www.researchgate.net/publication/364336618 Scattering of Directional Light](https://www.researchgate.net/publication/364336618_Scattering_of_Directional_Light)

https://urila.tripod.com/Model_Images.htm

Some References

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2. I. Dume, Irregularly shaped Moon dust creates complex scattering effects, *physics world, nano materials*, 2021 <https://physicsworld.com/a/irregularly-shaped-moon-dust-creates-complex-scattering-effects/>
3. S Baidya et. al. Optical Scattering Characteristics of 3-D Lunar Regolith Particles Measured Using X-Ray Nano Computed Tomography, *IEEE Geoscience and Remote Sensing Letters*, vol. 19, pp. 1-5, 2022 <https://ieeexplore.ieee.org/document/9416989>
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