

## The effect of thermal fatigue on the moon surface

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The surface condition of the Moon and asteroids reflects its geological evolution. In fact, the surface conditions are very different between celestial bodies. For example, the Moon is almost covered with fine regolith layer, on the other hand, boulders and regolith cover an asteroid Itokawa.

As usual, it has been thought that the collision of micro bodies was dominant as for the origin of regolith. However, recently, it is pointed the possibility that thermal fatigue is more dominant than collision on asteroids (Delbo et al., 2014). In this study, we investigate the size distribution of boulders around small craters at equator and high latitude, and discuss the effect of thermal fatigue on grain refining of boulders. In this study, we used the high-resolution images obtained by LRO.

The result shows that the size distributions of boulders around and in small craters differ with craters, reflecting the ages of small craters. Fresher craters have large boulders, and older craters have less large ones because boulders are destroyed with time. We will discuss the latitude dependence of the boulder destruction rate.