

Correlation between the the steep slope part of the crater size-frequency and geologic provinces of the moon

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The crater size-frequency averaged over various provinces in the lunar maria is known to increase the slope abruptly in the range between 300 m and 4 km in crater diameter. Attempting to understand the cause of such abrupt increase, we investigate regional crater size-frequencies. From the crater size-frequencies in two Copernican craters, it is shown that the secondary craters from large impact basins alone cannot explain the increase in the slope. Then we compare the crater size-frequencies in Mare Imbrium and Oceanus Procellarum with several geologic characteristics. The regional variation of the crater size-frequencies has a good correlation with the topography, while other geologic characteristics, including the age, have little to do with the variation.