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**Geology and crater-size frequency distributions
of the Apollo 11, 12, and 17 landing sites**

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The accuracy of the calibration points, defined at the Apollo and Luna landing sites, for the lunar cratering chronology [1] can be tested and improved. Modern lunar data contribute toward the reinvestigation and improvement of the chronology. New geological maps covering the surroundings of the landing sites are produced using recent Lunar Reconnaissance Orbiter Camera (LROC) images, various digital terrain models (DTMs), and spectral data (e.g., M3, Clementine, and Kaguya MI). New crater size-frequency distributions (CSFDs) were measured on carefully selected areas on LROC images. The new crater retention or $N(1)$ values are correlated with the updated isotopic ages of the Apollo samples [e.g., 2], as well as previously determined cumulative crater frequencies [e.g., 3]. The new results are incorporated in the Neukum et al. (2001) [4] chronological curve for the recalibration of the reference values.

[1] Neukum, G. (1983) Habil. thesis, U. of Munich. [2] Snape, J. F., et al (2018) Chem. Geo. [3] Robbins, S. J. (2014) EPSL 403, 188. [4] Neukum, G., et al. (2001) Space Sci. Rev. 96, 55.

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