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The Lunar Crash of 1956: A Crater is Identified

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In 1953 an amateur astronomer observed and photographed a flash on the Moon (Stuart, 1956). This event is the only unambiguous record of the rare crash of an asteroid-sized body onto the lunar surface. We estimate that the energy of the event was about 0.5 megatons, resulting in a 1-2 km sized impact feature, and that the radius of the impacting body was about 20 m. Such an event occurs every 10-50 years. Although below the resolution limit of ground-based telescopes, this crater should be visible on space-based images of the Moon obtained by the Lunar Orbiter and Clementine missions. A search of images from the Clementine mission reveals a 1.6 km feature with a high-albedo, blue, fresh-looking ejecta blanket at the location of the flash. Spectral analysis of the crater reveals it to be bluer and fresher than other young craters. Our results suggest that the effects of space weathering occur rapidly on the Moon.

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Stuart, L. (1956). The Strolling Astronomer. Vol 10, 42-43.

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10. It would be nice to have this session (P12) on Friday 6 Sept., as the banquet honoring Whipple Medal awardee Tom McCord is in the evening. (Tom is giving the kickoff talk for this session.)
11. Regular author