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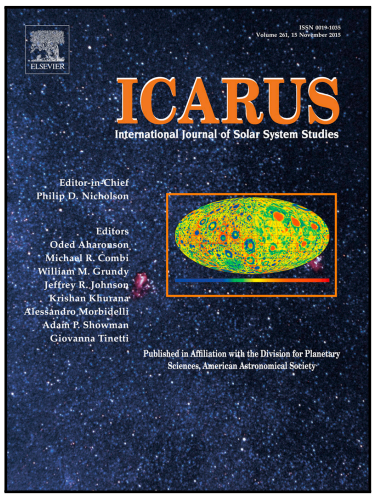

An analytical model of crater count equilibrium

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Highlights

- An analytical model is proposed for discussing crater count equilibrium on the surface of an airless body.
- To consider crater count equilibrium, we explicitly formulate the relationship between the number of newly emplaced craters and that of degraded craters.
- We consider cookie-cutting, ejecta-blanketing, and sandblasting to model the crater-degradation processes.
- Applications to the Sinus Medii region and the Apollo 15 landing site on the Moon show that a consistent degradation parameterization can successfully be determined based on the empirical results of these regions.

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