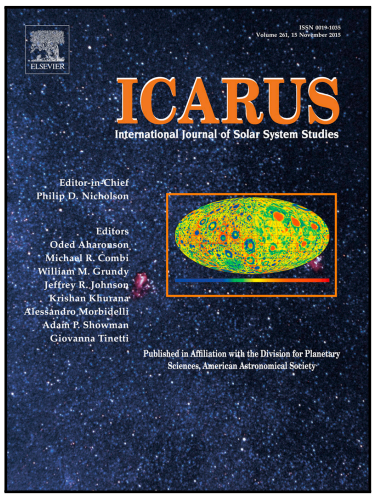

Impact cratering mechanics: A forward approach to predict ejecta velocity distribution and transient crater radii

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Highlights

- We propose an analytical model to predict ejecta velocities and crater radii.
- The model was developed based on the Z model and the residual velocity.
- The model reproduces the power-law behavior of the ejecta.
- The crater radii predicted by the model are consistent with previous studies.
- The model could aid in the design of future laboratory/numerical experiments.