

## Cratering erosion: revisited

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Numerous impacts of small bodies inevitably occur on larger planetary bodies. These impacts erode mass from target depending on impact velocities and impact angles. Holsapple & Housen (2007) provided the planetary community a scaling law that predicts the mass of cratering erosion under the point-source assumption. The scaling law is widely used in variety of studies of planetary impact phenomenon. In this work, by performing the state-of-the-art direct numerical simulations, we found that the point-source scaling law overestimates the erosion mass by a factor of several to order of magnitude by overstepping the range of a point-source assumption. Using data obtained from numerical simulations, we derive a new scaling law of the erosion mass from target that covers both within and beyond the limitation of the point-source assumption (Hyodo&Genda 2020 in prep).

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