

## The size of ejecta particles of the artificial impact crater formed by Hayabusa2 Small Carry-on Impactor

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A projectile accelerated by Hayabusa2 Small Carry-on Impactor succeeded in producing an artificial impact crater with a diameter of >10 m on the surface of the asteroid Ryugu on April 5, 2019. At the time of cratering, Deployable Camera 3 (DCAM3) took clear images of ejecta curtain emerged from the crater. Comparing the ejecta curtain images to a theoretical model of ejecta curtain, we infer the size of the particles composing the ejecta curtain. Since almost of the ejecta particles come from the underground, we can discuss about the particle size distribution of the subsurface layer of Ryugu and the evolution process of Ryugu's surface layer. As a result, the typical size range of the ejecta particles is estimated to be ~cm to several 10 cm, although it depends on the assumed size distribution. This typical size is relatively small compared to the boulder size on the uppermost surface, suggesting some kind of surface process occurred in the past.

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