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はやぶさ 2 サンプラーで挑む近地球 C 型小惑星の表面多様性
Hayabusa-2 sampler: Surface variety of near-Earth C-type asteroid

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Samples from C-type asteroids, which are abundantly present in the asteroid belt and of which reflectance spectra resemble those of carbonaceous chondrites, may well preserve the information covering the long history of the solar system, compared to other bodies such as comets and Itokawa-like bodies. Their scientific values will be significantly increased for return samples obtained with detailed geological contexts. Moreover, surface samples from near-Earth C-type asteroids will provide insights into the space weathering of C-type asteroids and the surface thermal processes due to irradiation of sunlight, which cannot be obtained from meteorites and interplanetary dust particles. The Hayabusa-2 is a sample return mission from a near-Earth C-type asteroid 1999JU3 (2014-2020). Here we describe a sampling system of the Hayabusa-2 spacecraft to obtain samples from multiple surface locations of the asteroid with minimal contamination and a possible sampling strategy.

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