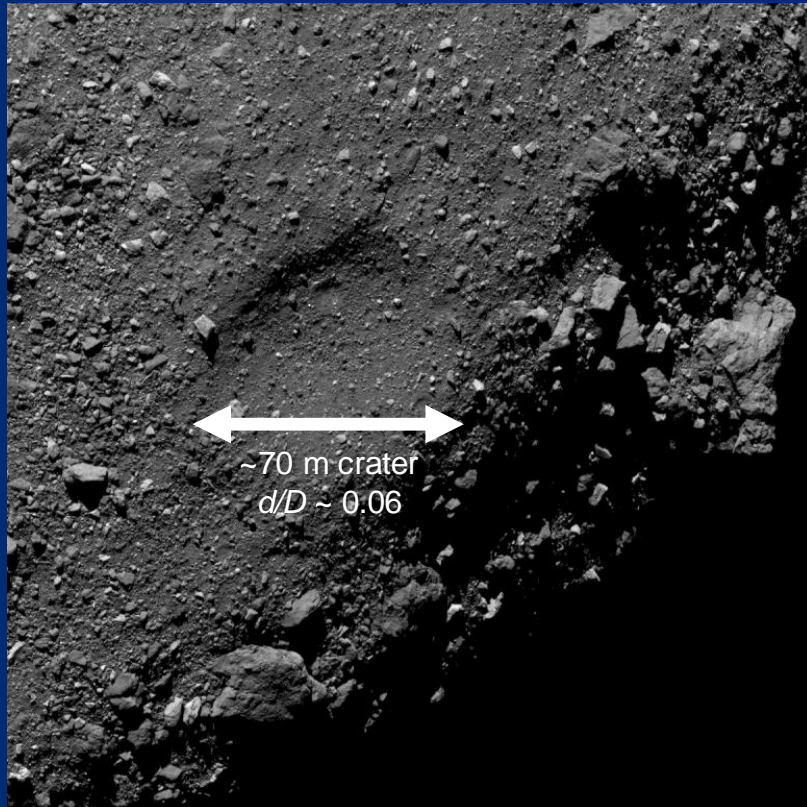
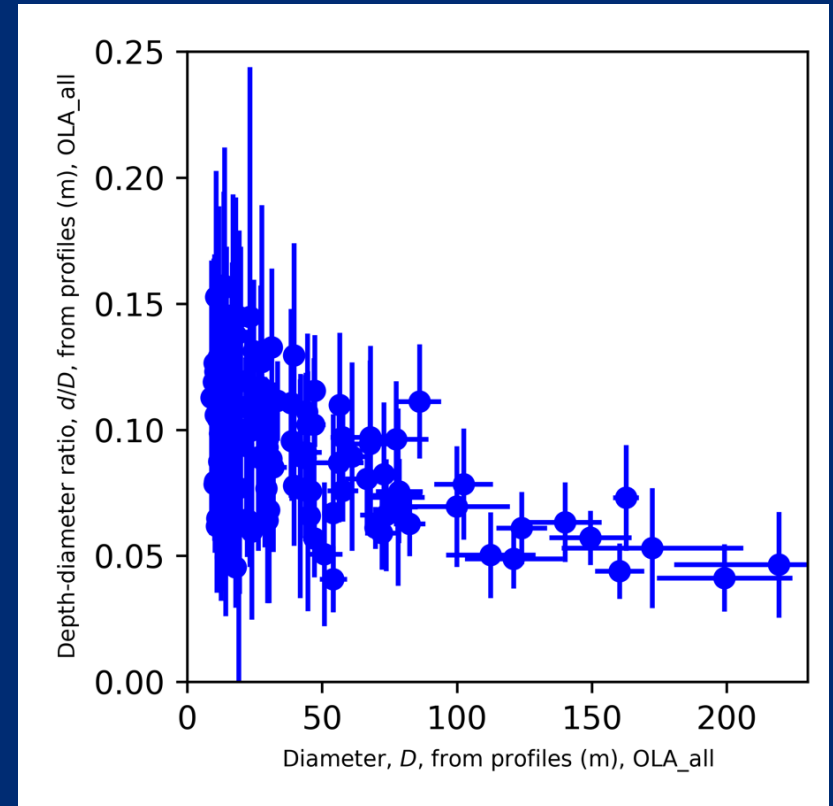


The variable depth-to-diameter ratios of impact crater candidates on Bennu



Left: This image taken by the OSIRIS-REx MapCam on 19 April 2019 shows a beautiful impact crater candidate. Several hundred candidate craters have been found on Bennu and measured with data collected by OSIRIS-REx laser altimeter.

Right: Craters on Bennu show a broad range of depth-to-diameter ratios (d/D), a useful metric for comparing craters on and between different bodies. On Bennu, d/D is also a function of size. The deepest craters are small; the largest craters are shallow. On larger bodies (e.g., the Moon), large craters are shallow because of gravitational collapse. On 500m-diameter Bennu, the large craters may be encountering a stiff interior or influenced by surface curvature. Experiments and numerical models suggest that the small craters could have a broad range of d/D as a result of Bennu's blocky, boulder-rich surface.



Candidate impact craters on the tiny asteroid Bennu exhibit striking variation in depth-to-diameter ratios. These variations provides clues to the physical properties of this tiny asteroid and insights into how impact processes work on rubble-pile asteroids.