**Introduction:** Since December 2018, NASA’s OSIRIS-REx [1] spacecraft has been orbiting the Apollo-type near-Earth asteroid (101955) Bennu (Fig. 1). The main goal of the mission is to bring back to Earth at least 60 g of regolith sampled from the surface of the asteroid. In order to accomplish this, a complex multi-instrument analysis of Bennu’s surface has been performed to fully characterize the asteroid, and to identify the safest and most scientifically interesting sampling site [2]. In particular, OCAMS (OSIRIS-REx Camera Suite [3]) images have revealed that Bennu is a rubble-pile asteroid characterized by several impact craters of different sizes [4] and by ubiquitous boulders with different albedo, morphology and dimension [4,5]. Throughout the last 12 months, the need to identify a primary and a backup sample site led to the acquisition of extremely high spatial resolution OCAMS images covering the full asteroid surface from decimeters to centimeters. Such an extensive dataset provided detailed constraints to understanding the global geology of Bennu [6]. Moreover, it allowed us to distinguish and classify different types of boulders, such as those, called Type A, that are characterised by a dark-toned, hummocky appearance, with visible clasts [6].

The main goal of this work is to focus on different Type A boulders, in order to identify the number, size and shape of the visible clasts. By quantifying their spatial densities and size distribution, we aim to understand if clast size ranges are similar, or not, among all studied boulders. This has important implications on their possible origin whether as exposed clasts [7] due to weathering processes occurring on the asteroid surface [8] or as particulate fallback material [7], potentially sourced from particle ejection events.

**Clast identification:** Between February and April 2019, the Detailed Survey Baseball Diamond (BBD) mission phase occurred. During this phase the OCAMS PolyCam imaged the whole Bennu surface with a 2- to 6-cm/pixel spatial scale and with smaller phase angles (~20-50°) than previous campaigns (generally ~90°). Such illumination conditions, coupled with unprecedented imaging resolution, allowed the identification of multiple boulders characterized by pebble-cobble sized clasts on their surfaces (see Fig. 2A). From this dataset we selected those images that contain Type A boulders; we then imported them into the ESRI’s Geographic Information System ArcMap software. The outline of each clast was then interactively approximated by a polygon (Fig. 2B). The resulting tagged area was used as a proxy for the projection of the clast surface. The size of this area was automatically extracted from the images by knowing the spatial scale in centimeters for each pixel. The clast dimension was then defined as the diameter of an equivalent sized circle. The area of the exposed surface of the boulder was then computed in the same fashion. This was then used to compute the surface density of the different clast sizes identified. Eventually, the size distributions and ranges of the clasts on each boulder were computed.
**First results:** A first analysis of the size histograms obtained on the boulders studied so far shows that resolvable clast diameters range between 10 cm to maximum dimensions of 120 cm, with median values of individual boulders of 16-18 cm, independently of the size of the “hosting” boulder. A similar median value of the identified clasts may suggest that the studied boulders are the result of similar formation processes. As highlighted by [6], the clastic texture of Type A boulders suggests that they could be impact breccias formed at or near the surface of Bennu’s parent body. Therefore, similar clast dimensions among the studied boulders may then support the idea that even if these boulders formed on different locations on the parent body, they may have all been brecciated at comparable depths and the surface of the parent body could have been globally homogenous.

**Comparison to asteroid (162173) Ryugu:** Boulders with similar morphologies have also been identified on Ryugu (their Type I boulders, [9]). The abundance of dark, hummocky, clastic morphologies of boulders on both bodies emphasizes the dominant role impact processes may have played on the parent body, through fragmentation and subsequent lithification of near-surface materials.

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