

Dry granular flows in reduced-gravity conditions

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The past ten years have seen a lot of successful missions devoted to the study of small bodies in our solar system. These data revealed several unexpected features, in particular smooth areas with flow-like characteristics. Some hypotheses have been proposed to explain how these features could be formed. As the smooth areas were found on different bodies (comets Tempel1, Wild2, asteroids Eros, Itokawa), we believe that they can be explained by a common process of resurfacing, especially avalanches.

In order to constrain some parameters for the flow of granular matter under reduced-gravity conditions, like the critical angle or the influence of the particle-size, experiments have been performed in the Drop Tower Bremen facility. We showed that above 0.03g the gravity does not play a significant role for the slope angle.