

**BENEMÉRITA UNIVERSIDAD AUTÓNOMA DE PUEBLA**



**INSTITUTO DE FÍSICA  
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**"Ray systems and craters generated by the impact  
of non-spherical projectiles"**

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The impact of a spherical projectile on an evened-out granular bed generates a uniform ejecta of material and a crater with a raised circular rim. Recently, Sabuwala et. al. [Phys. Rev. Lett.120, 264501 2018] found that the uniform blanket of ejecta changes to a set of radial streaks when a spherical body impacts on an undulated granular surface, being a plausible explanation to the enigmatic ray systems on planetary bodies. Here we show that ray systems can also be generated by the impact of non-spherical projectiles on a granular surface. This is a reasonable explanation considering that meteorites are rarely spherical. Moreover, we show that the crater size follows the same power law scaling with the impact energy found for spherical projectiles, and the craters rim becomes circular as the impact energy is increased independently of the projectile shape, which helps to understand why most impact craters in nature are rounded.

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13:00 Hrs.**