

Abstract Submitted  
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**Endless penetration in impact cratering**<sup>1</sup> J. CARLOS RUIZ-SUAREZ, Cinvestav-IPN, Unidad Monterrey, FELIPE PACHECO-VAZQUEZ, Cinvestav-IPN, Unidad Merida, J. MANUEL SOLANO-ALTAMIRANO, Cinvestav-IPN, Unidad Monterrey, GABRIEL CABALLERO-ROBLEDO, Cimav-Unidad Monterrey — The phenomena of impact cratering have been in the minds of physicists at least for two decades; the reason being the interest for elucidating the intriguing rheological response produced by granular systems when they are penetrated. With the great amount of work done in this regard, one could think that the problem is reasonably well understood. However, we study here a fascinating phenomenon never observed before in granular penetration experiments: depending on the mass of a projectile colliding onto a granular bed, it either stops at a given depth like normally expected, or keeps sinking with a terminal velocity as if the medium were a newtonian fluid. Understanding this intriguing behaviour could help us to know the subtleties of intrusion phenomena in granular media.

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