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Forces on Intruders in Granular Media IBAR DE LA CRUZ, WPI — We measure the forces acting on intruders moving in different directions in a granular medium consisting of mono-disperse spherical glass beads. We present the dependence of the drag force on the intruder's geometry and surface roughness, bead size, dragging speed and immersion depth. We present a model that considers not only the wedge dragged by the intruder but also the pile created as the intruder moves through the granular material to calculate the drag force. We compare our experimental and analytical results.

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