

Abstract Submitted
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Boundary layer model for intruder drag STEPHAN KOEHLER,
JONATHAN GOLDSMITH, Physics Dept., WPI, MINGJIANG TAO, Civil and
Environmental Engineering, WPI — We propose a boundary layer model for drag
on vertical intruders with uniform cross-sections in granular beds. The drag is the
surface integral of the stress over a monolayer of particles, where the stress has a
simple dependence on depth beneath the surface and angle of the surface normal
relative to the direction of flow. This model is in good experimental agreement,
accounts for the scale effect and the associated force focusing observed on edges of
intruders.

Stephan Koehler
Physics Dept., WPI

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