Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

Vibrheology of Granular Matter JOSHUA DIJKSMAN, GEERT WORTEL, MARTIN VAN HECKE, Leiden University — We show how weak agitations substantially modify the rheology of granular materials. We experimentally probe dry granular flows in a weakly vibrated split bottom shear cell – the weak vibrations act as the agitation source. By tuning the applied stress and vibration strength, and monitoring the resulting strain, we uncover a rich phase diagram in which non-trivial transitions separate a jammed phase, a creep flow case, and a steady flow case.

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Date submitted: 19 Nov 2008 Electronic form version 1.4