Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

Shearing dynamics and jamming density PETER OLSSON, DANIEL VÅGBERG, Department of Physics, Umeå University, Umeå, Sweden, STEPHEN TEITEL, Department of Physics and Astronomy, University of Rochester, Rochester, NY 14627 — We study the effect of a shearing dynamics on the properties of a granular system, by examining how the jamming density depends on the preparation of the starting configurations. Whereas the jamming density at point J was obtained by relaxing *random* configurations [O'Hern et al, Phys. Rev. E 68, 011306 (2003)], we apply this method to configurations obtained after shearing the system at a certain shear rate. We find that the jamming density increases somewhat and that this effect is more pronounced for configurations produced at smaller shear rates. Different measures of the order of the jammed configurations are also discussed.

Peter Olsson
Department of Physics, Umeå University, Umeå, Sweden

Date submitted: 21 Nov 2008 Electronic form version 1.4