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MICROSCOPIC REARRANGEMENTS IN A GRANULAR COLUMN DURING COMPACTION BY THERMAL CYCLING

ABSTRACT

We track particle motions in a granular material subjected to a slow compaction process. For 3D imaging of the positions of all particles, we use laser sheet scanning of fluid immersed granular matter. To compact the material, we slowly expand and contract the container via heating and cooling. We examine how the particles rearrange in this compaction process with respect to individual neighbors. We compare the relative positions of neighboring particles to their relative velocities using the distribution $P(\cos \alpha)$, as introduced by Ellenbroek et al [1].

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Times Cited

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