Abstract Submitted
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An experimental study of the phases of hard squares[1] LEE WALSH, NARAYANAN MENON, Univ of Mass - Amherst — We study the phase diagram of hard squares in two dimensions using millimeter-sized square particles on a vibrated plate. The plate serves as a quasi-thermal noise source which generates translational and rotational diffusion of isolated particles. As area density increases, the spatial arrangement of the squares undergoes a transition from isotropic to phases with four- and six-fold ordering, and subsequently develops crystalline order. This succession of transitions in orientational and translational ordering is in qualitative agreement with recent simulations [C. Avendaño and F. Escobedo, Soft Matter 2012 (8) 4675].

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Lee Walsh
Univ of Mass - Amherst

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