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**Clogging and Jamming Transitions in Granular Matter Flowing Through Obstacles** CYNTHIA OLSON REICHHARDT, CHARLES REICHHARDT, Los Alamos National Laboratory — We consider a two-dimensional system of bidisperse disks driven through a landscape of fixed obstacles. In the limit of a single obstacle, the disks cease moving when the disk density is increased to the jamming density. The threshold density value decreases as the number of obstacles increases, but we also observe a change in the nature of the frozen state. At low obstacle density we find a homogeneous jammed state, but for higher obstacle density we instead find a heterogeneous clogged state containing void areas and possessing a memory of the driving direction. The transition to the clogged state is strongly stochastic and we observe large fluctuations in clogging time both for clogging in the original driving direction and for transverse clogging when the drive is suddenly rotated by 90 degrees. We find evidence for a diverging clogging transition time at a critical disk density well below the jamming density in a clean system.

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