

Abstract Submitted
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Deformed Droplets in Static Two-Dimensional Emulsions PEARL

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— We confine oil-in-water emulsions between two parallel plates, so that the droplets are essentially squeezed into quasi two-dimensional disks, somewhat analogous to granular photoelastic disks. By varying droplet area fraction, we seek to quantify the jamming transition of this static system. At a critical area fraction, the composition of the system should no longer be characterized primarily by circular disks but by disks deformed to varying degrees. We study a system of toluene droplets in water. As expected, we find that an increase in area fraction corresponds with an increase in average droplet deformation. Further, an increase in average droplet deformity corresponds with an increase in the heterogeneity of deformity within a given sample.

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