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Jamming of quasi-2D emulsion droplets: Analogies with granular jamming ERIC R. WEEKS, KENNETH W. DESMOND, PEARL J. YOUNG, DANDAN CHEN, Physics Dept., Emory University — We experimentally study the jamming of quasi-two-dimensional emulsions. Our experiments consist of oil-inwater emulsion droplets confined between two parallel plates. These are somewhat analogous to granular photoelastic disks, although they are softer and do not experience static friction. From the droplet outlines, we can determine the forces between every droplet pair to within 8% over a wide range of area fractions. Using the data, we observe critical scaling behaviors of the contact numbers and pressure as the jamming transition is approached from above. The scaling behavior agrees well with simulations and is similar to what has been seen previously with photoelastic disks.

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