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**Buckling instability of a pinned droplet** GWYNN ELFRING, ERIC LAUGA, University of California San Diego — Pinned droplets have been experimentally observed to develop a shape instability when squeezed against a non-wetting surface. Using a combination of analysis and simulation we show that this instability occurs regardless of the contact angle of the surface due to a geometric bifurcation past a critical conformation in a manner reminiscent of a liquid bridge between two columns. We characterize the transition of a droplet from symmetric to asymmetric conformations and show how this leads to a buckling of the bubble under a load.

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