

Abstract Submitted
for the DFD14 Meeting of
The American Physical Society

Barrel-Clamshell analog in the capillary bridges between two solid spheres JAMES BIRD, TIMOTHY FARMER, Boston University — Sessile drops on a wire are known to adopt one of two topological configurations, referred to as a barrel or a clamshell, depending on the volume and contact angle. Here we report on an analogous topological transition for the capillary bridge between two contacting solid spheres. We characterize the transition by numerically computing the bridge shapes that minimize surface energy for a variety of contact angles and volumes. Finally, we are able to develop an exact solution to the non-axisymmetric bridge shapes by relying on symmetries of the geometry.

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Date submitted: 01 Aug 2014

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