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Boundary Stability of a Nematic Liquid Bridge WILLIAM BARNES, CHRIS SANTANGELO, Univ of Mass - Amherst — We consider a nematic liquid crystal droplet in air confined between two parallel plates with homeotropic boundary conditions. The boundary conditions at the nematic-plate and nematic-air interfaces induce either a hedgehog or planar ring disclination within the nematic bridge, depending on the plate separation and bridge radius. We study the stability of the liquid crystal-air boundary of a nearly cylindrical nematic bridge by minimizing the Frank elastic energy.

William Barnes
Univ of Mass - Amherst

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