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Elastocapillary imbibition CAMILLE DUPRAT, JEFFREY ARISTOFF, HOWARD STONE, Department of Mechanical and Aerospace Engineering, Princeton University — The deformation of flexible structures under capillary forces (elastocapillarity) is relevant to many biological and engineering processes and has been the subject of several recent studies. Here, we focus on the capillary filling, or imbibition, of a gap between flexible boundaries. We examine two model systems of elastocapillary imbibition using a combination of experiment, theory and numerical simulation. In each case we determine the time to reach equilibrium (if one exists) and establish a criterion for coalescence of the elastic boundaries.

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