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The dynamics of foams with mobile interfaces[1] MICHAEL B. GRATTON, STEPHEN H. DAVIS, Northwestern University — Using a novel technique for resolving nearly singular integrals, we investigate the dynamics of two-dimensional foams with mobile interfaces and an incompressible, inviscid gas phase by a boundary integral method. For foams with small liquid fractions ($\leq 5\%$), we observe node motion, lamellar bending, drainage, and T1 transitions. Node motion occurs on the fastest timescale and is well-described by considering only the surface forces on each Plateau border. The lamellar bending is characterized by viscida theory, but the drainage occurs at a different rate than predicted by the asymptotic theory for the examples studied. Topological transitions occur on a timescale intermediate to Plateau border rearrangement and drainage.

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