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Tip singularity on a liquid-gas interface SYLVAIN COURRECH DU PONT, JENS EGGERS, University of Bristol — In our experiment, an interface between a viscous liquid and air is deformed by a sink flow of constant flow rate to form a sharp tip. The interface shape is recorded using a microscope with 1 μ m resolution. The curvature at the tip is controlled by the distance h between the tip and the sink. As a critical distance h^* is approached, the curvature diverges like $1/(h - h^*)^3$ and the tip becomes cone-shaped. As the distance to the sink is decreased further, the opening angle of the cone vanishes like h^2 . No evidence for air entrainment was found, except when the tip was inside the orifice.

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