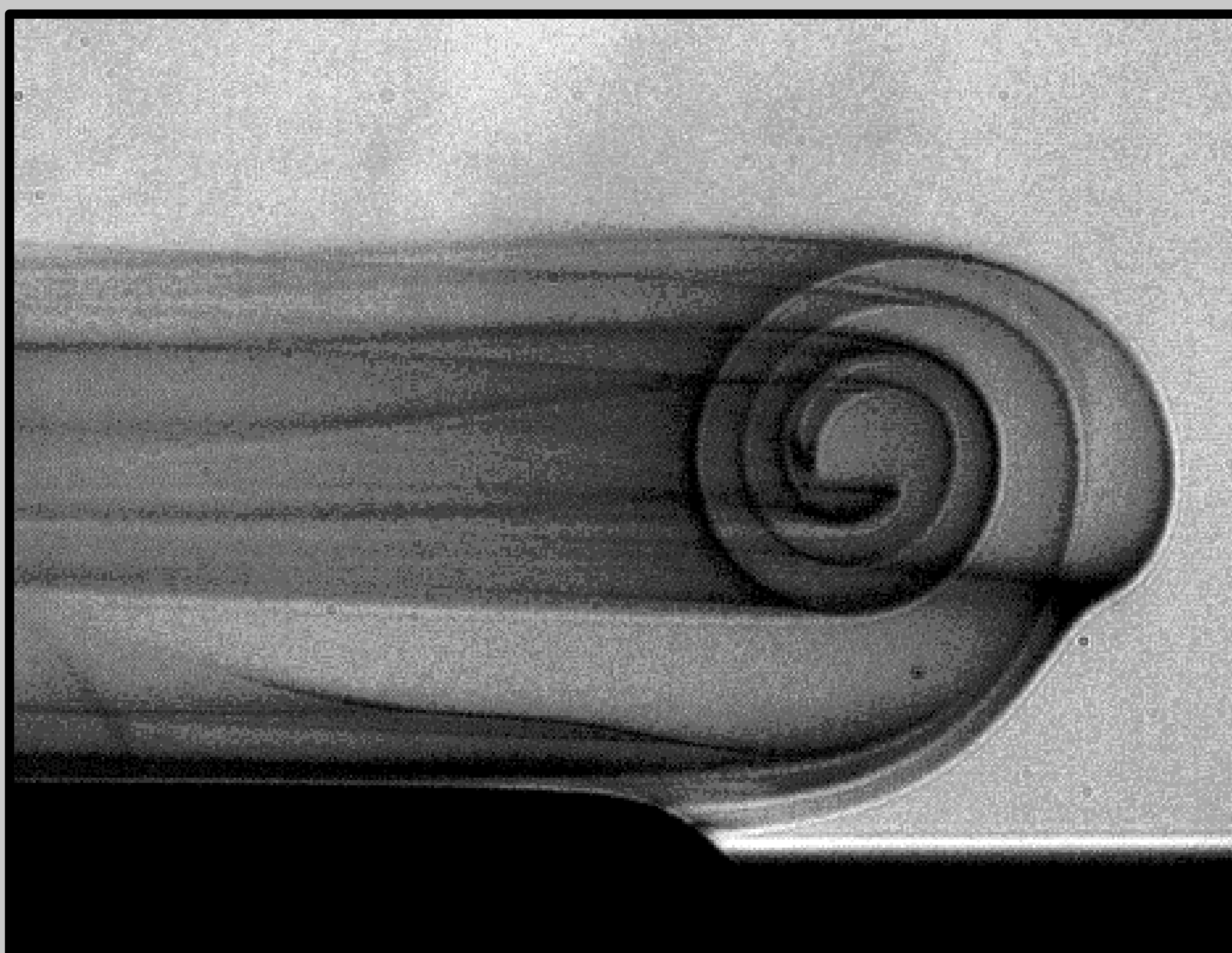
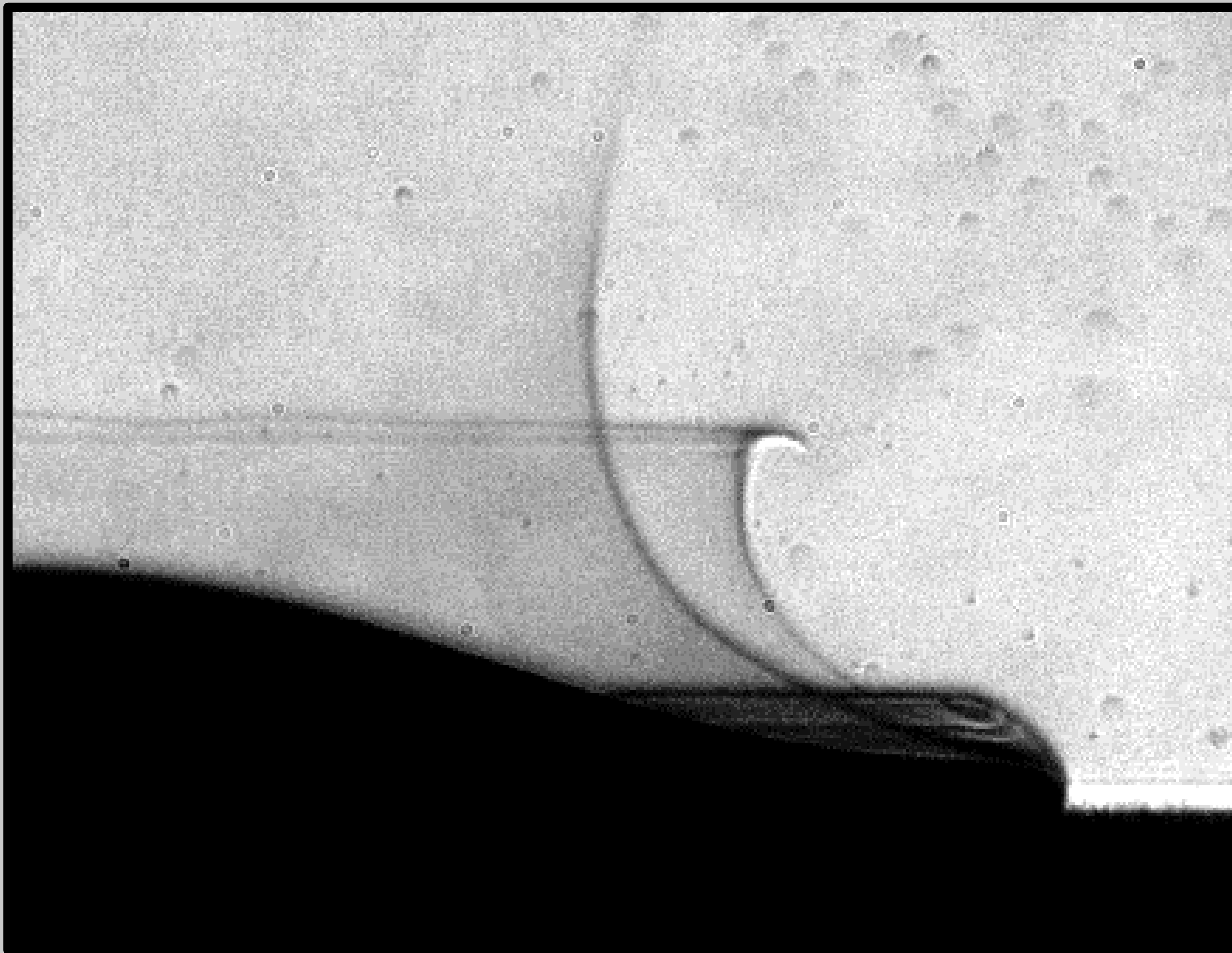
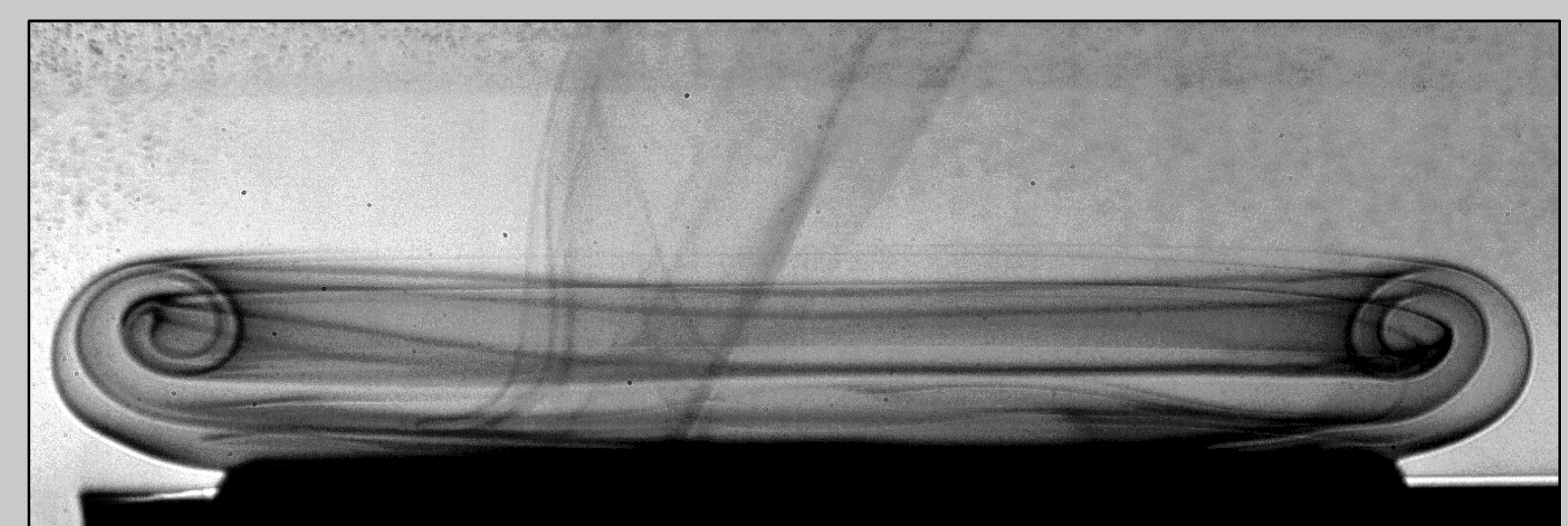
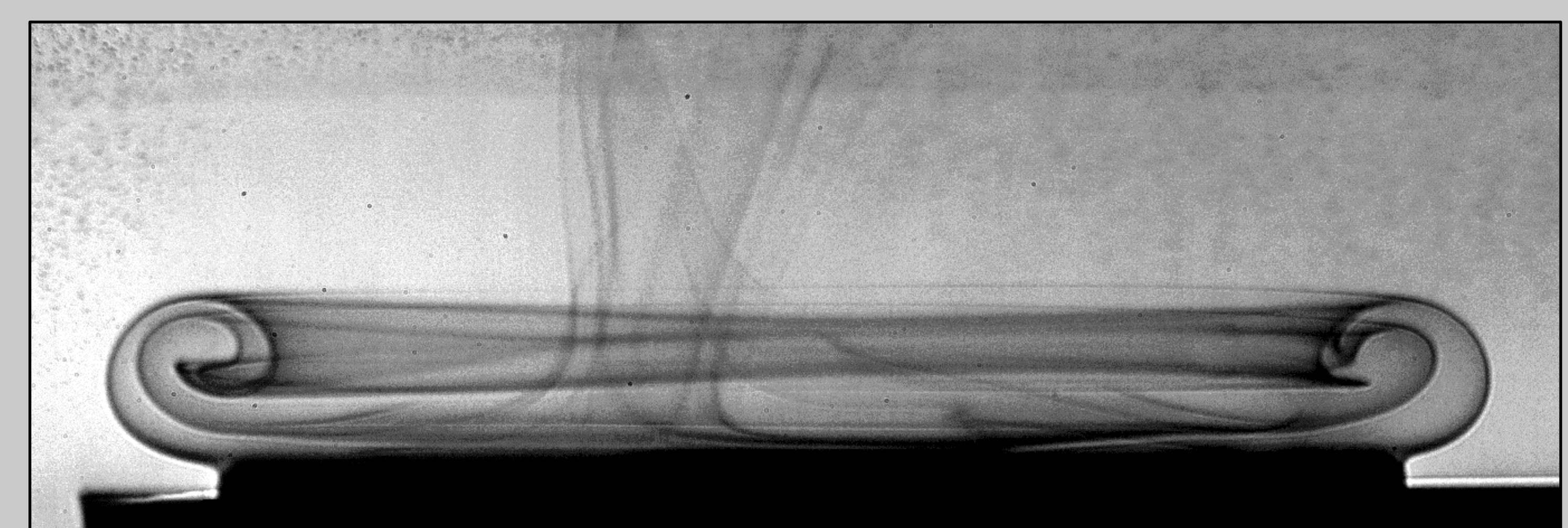
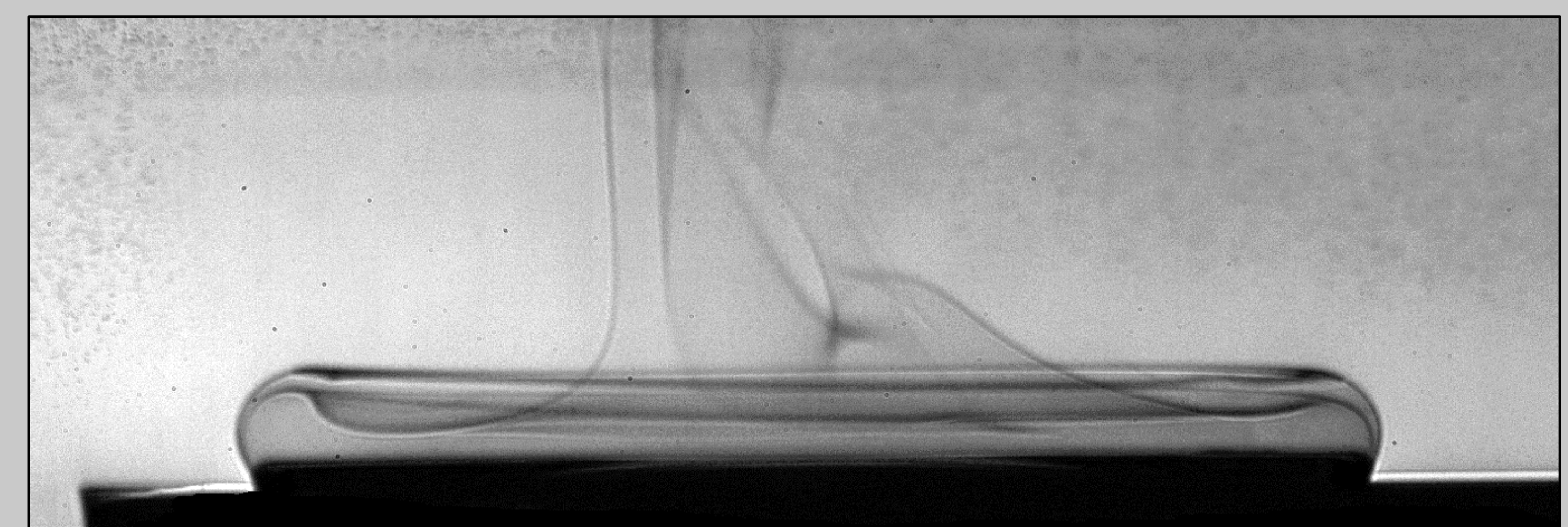
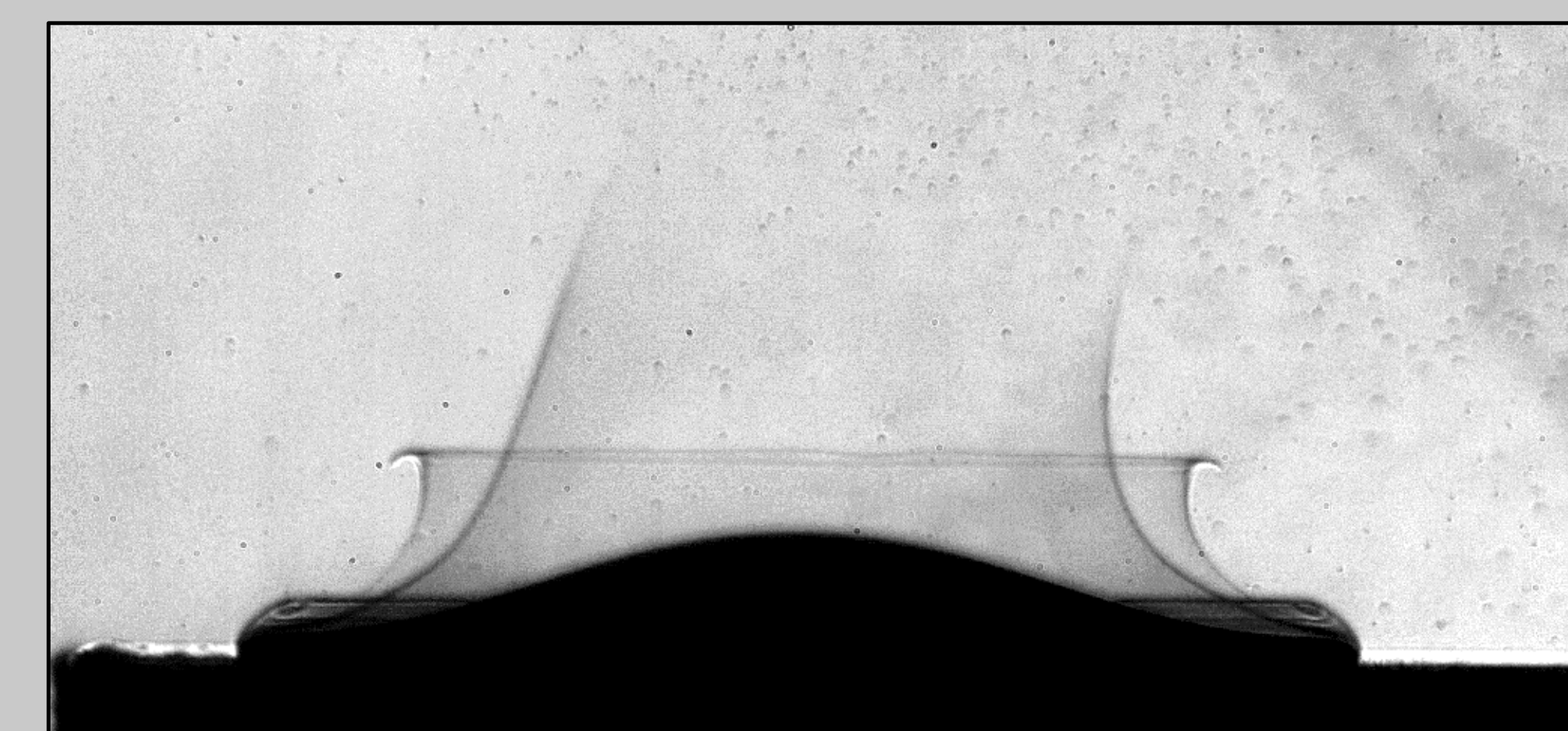
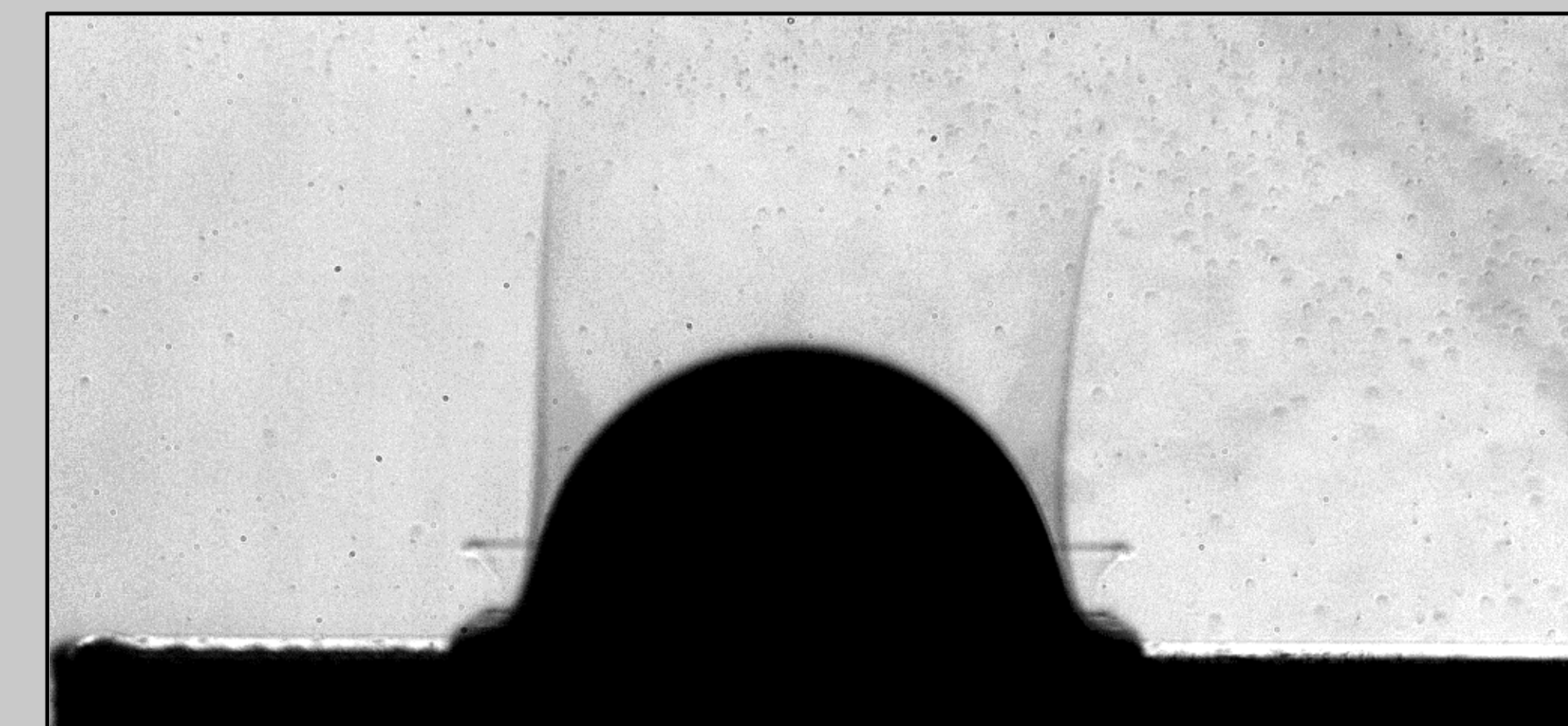
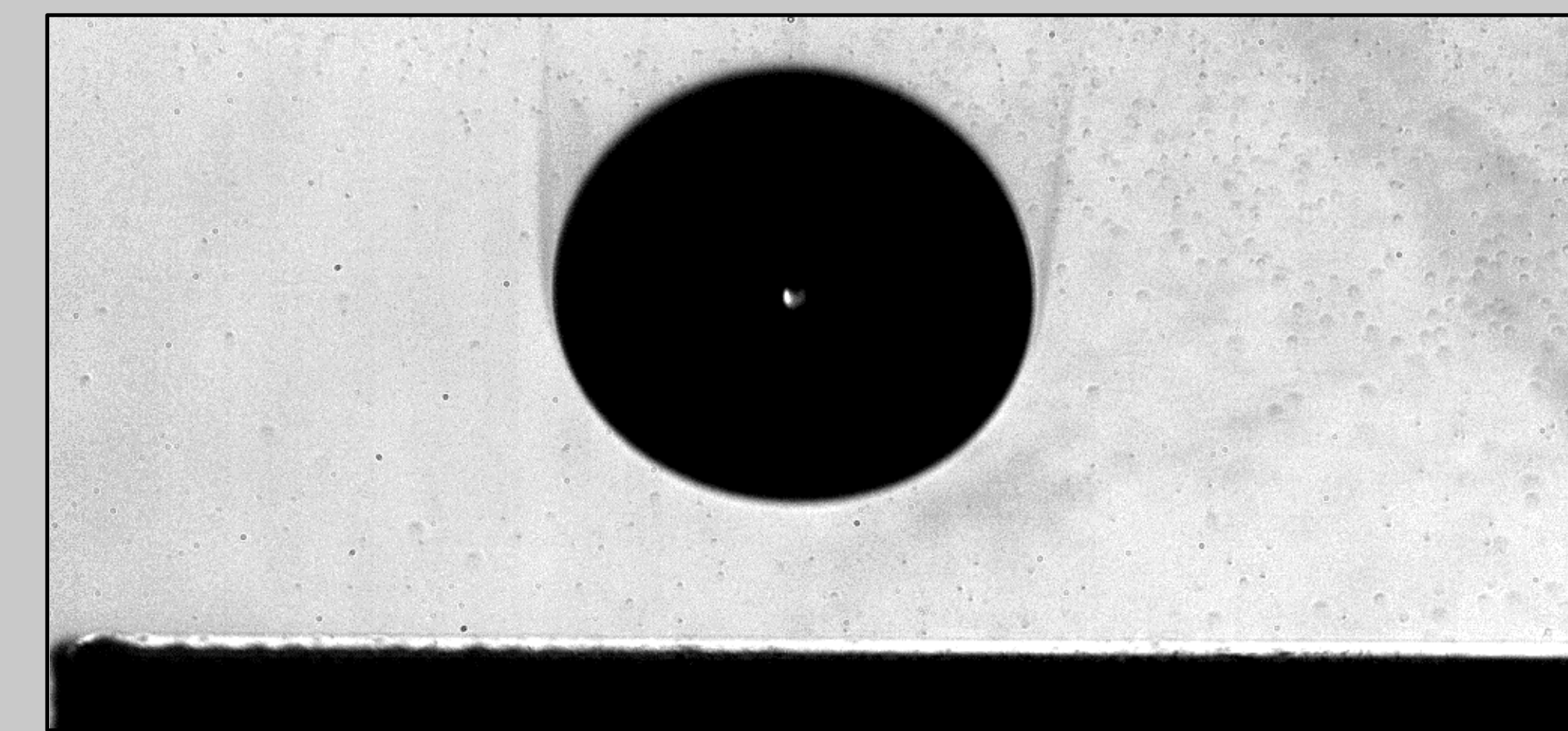


Seeing the invisible - air vortices around a splashing drop

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Air vortices created by the impact and spreading of a drop on a rough surface. We use modified Schlieren optics combined with high-speed imaging to visualize the vortices; contrast is enhanced with smoke and by heating the substrate. Initially the vortices remain bound to the spreading drop, creating a low-pressure zone traveling with the lamella. The vortices eventually detach.



Time after impact: -0.25 ms, 0.25 ms, 0.75 ms, 1.75 ms, 3.25 ms, 4.25 ms
Drop diameter: 2.8 mm, Liquid viscosity: 20 cSt, Impact speed: 3.8 m/s