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Bubble entrapment by droplet-meniscus collision KOEN G. WINKELS, DIEDERIK L. KEIJ, JACCO H. SNOELJER, Physics of Fluids, University of Twente, The Netherlands — The impact of a sessile droplet with a meniscus, close to a moving contact line, is studied experimentally with high-speed imaging. Above a certain velocity and impacting droplet size, bubbles are entrained into the liquid during the process of coalescence. By looking through the liquid we can resolve the formation of an air sheet that is trapped between the drop and the meniscus. This sheet breaks up into a single or multiple bubbles, depending on the experimental conditions. We characterize the various mechanisms for entrainment and identify scaling relations for the size of the entrained bubbles in terms of impacting droplet size and velocity.

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