

Partial Coalescence of Soap Bubbles

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We present the results of an experimental investigation of the partial coalescence of a soap bubble with a planar soap film. When a bubble is gently deposited onto a horizontal film, it can partially combine with the underlying film, resulting in the ejection of a smaller daughter bubble. The resultant daughter bubble is approximately half the radius of the initial bubble, and each partial coalescence event occurs over a time scale comparable to the inertial-capillary time. Our results are in good agreement with recent numerical simulations of the same phenomenon by Martin & Blanchette [1]. The length and time scales are substantially larger than those arising in the analogous phenomenon for droplets [2], making this experiment suitable for teaching and tabletop demonstrations.

Références

1. D. W. Martin & F. Blanchette. *Phys. Fluids*, **27** 012103, (2015).
2. F. Blanchette & T. P. Bigioni. *Nat. Phys.*, **2** 254, (2006).