

Abstract Submitted  
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**Lifetime expectancy for a soap bubble**<sup>1</sup> TRISTAN GILET, TOM SCHELLER, NICOLAS VANDEWALLE, STEPHANE DORBOLO, University of Liege, GRASP TEAM — Soap bubbles are metastable : drainage and evaporation cause their soapy water skin to thin and eventually to rupture. We have investigated experimentally the maximum lifetime of bubbles as a function of their size. For a large range of sizes, this lifetime is proportional to the bubble radius : small bubbles last shorter than large ones, but their lifetime is more predictable. A model based on lubrication theory is proposed : evaporation is shown to be the key process in determining the maximum lifetime.

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