

Abstract Submitted  
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**Memory effects in soap film arrangements** NICOLAS VANDEWALLE, STEPHANE DORBOLO, GEOFFROY LUMAY, JULIEN SCHOCKMEL, MARTIAL NOIRHOMME, GRASP, Institute of Physics B5a, University of Liege, B4000 Liege — We report experiments on soap film configurations in a triangular prism for which the shape factor can be changed continuously. Two stable configurations can be observed for a range of the shape factor  $h$ . A hysteretic behaviour is found, due to the occurrence of another local minima in the free energy. Experiments demonstrate that soap films can be trapped in a particular configuration being different from a global surface minimization. This metastability can be evidenced from a geometrical model based on idealized structures. Depending on the configuration, providing clues on the structural relaxations taking place into 3D foams, such as T1 rearrangements. The composition of the liquid is also investigated leading to dynamical picture of the transition. (Phys. Rev. E 83, 021403 (2011))

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