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On the thickness of a film generated during a topological rearrangement PAULINE PETIT, ILM, UMR5306, Université Lyon 1, France, JACOPO SEIWERT, ISABELLE CANTAT, IPR, UMR6251, Université de Rennes 1, France, ANNE-LAURE BIANCE, ILM, UMR5306, Université Lyon 1, France — T1 topological rearrangement, i.e. switching of neighboring bubbles in a liquid foam, is the elementary process of foam dynamics. It has been extensively studied as it is a crucial point for foam rheology [Cohen-Addad *et al.*, 2013] or foam collapse [Biance *et al.*, 2011]. The dynamic of T1 has been proved to depend a lot on the surfactants used in the foaming process, and different modeling taking into account surface viscosity and/or elasticity have been proposed [Durand *et al.*, 2006; Biance *et al.*, 2009; Grassia *et al.*, 2012]. By performing experiments in a cubic assembly of films, we go a step forward this global analysis in investigating the structure of the freshly formed film. In particular, the flow velocity field is probed by particle tracking and the film thickness by light absorption and interferometric measurements. Two distinct behaviors have been observed: for mobile surfactants, the observations suggest an elongation flow and a stretched convected behavior of the liquid in the film, as for more rigid ones, the liquid in the film is at rest, its structure being entirely governed by its formation near the liquid junction (i.e. Plateau border) connecting the neighboring films.

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