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Mechanics of Bidimensional Liquid Foams

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An experimental study of foam flow is presented. A 2D foam is confined between a soap solution and a glass plate. It flows through a channel around an obstacle. This device enables to perform simultaneously external sollicitation, measurement of the response force and image analysis. We perform a systematic study of the drag exerted by the foam on the obstacle, *versus* the experimental control parameters: flow rate, bubble size and fluid fraction. Simultaneously, local velocity and stress fields are measured; we also measure a statistical strain field. The comparison of both types of measurements enables to study the link between local events and the global mechanical behaviour of the foam.

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