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Capillary leveling of stepped films with inhomogeneous molecular mobility KARI DALNOKI-VERESS, Department of Physics and Astronomy, McMaster University, Hamilton, Ontario, Canada, L8S 4M1, JOSHUA D. MCGRAW, Department of Experimental Physics, Saarland University, 66041 Saarbrücken, Germany, THOMAS SALEZ, Laboratoire de Physico-Chimie Théorique, UMR CNRS Gulliver 7083, ESPCI, Paris, France, OLIVER BÄUMCHEN, Max Planck Institute for Dynamics & Self-Organization, 37077 Göttingen, Germany, ÉLIE RAPHAËL, Laboratoire de Physico-Chimie Théorique, UMR CNRS Gulliver 7083, ESPCI, Paris, France — The simple geometry of a polymer film on a substrate with a step at the free surface is unfavourable due to the excess interface induced by the step. Above the glass transition Laplace pressure gradients will drive flow, thus providing an excellent probe for nano-rheology. Here we recap some of our recent progress on the capillary leveling of stepped films. In particular, we present new studies on polymeric samples with precisely controlled, spatially inhomogeneous molecular weight distributions.

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