

Abstract Submitted
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Interaction Between Two Localized Wrinkle Patterns JIANGSHUI HUANG, WIM H. DE JEU, NARAYANAN MENON, THOMAS P. RUSSELL, Department of Physics, Polymer Science and Engineering, University of Massachusetts Amherst — A drop of water placed on the surface of a freely floating ultrathin polymer film produces a radial wrinkling pattern due to the capillary force it exerts on the film. We have previously characterized [1] the number N and length L of the wrinkles. We now study the interaction between two such localized wrinkling patterns each induced by one drop of water. The patterns distort, and radial symmetry about each drop is lost, with the wrinkles extending further along the line between the drops. When the drops are brought closer, a single long wrinkle forms along this axis. We use the distance at which this connecting wrinkle appears to quantify the range of the interaction between the wrinkles. We will present data for this interaction length as a function of other length scales in the experiment.

1. Full reference here. Science 317, 650(2007)

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