

Abstract Submitted
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Dynamics and line tension in thin nematic films ULYSSE DELABRE, CELINE RICHARD, ANNE-MARIE CAZABAT, LPS, ENS — Line tension is important in phase transitions for monolayer systems and in biophysics. Nevertheless, experimental studies about hydrodynamics with line tension are still lacking compared to surface tension ones. We consider here a thin nematic film deposited at the air/water interface with hybrid anchoring conditions. This situation is very special because instability patterns exist and the nematic film coexists with a trilayer structure which leads to a line tension between the nematic and the trilayer. We made some dynamic measurements of line tension by analyzing the relaxation of two domains after coalescence. We propose here a comparison between dynamic and static measurements. We then study the early stage of coalescence between two nematic domains with high speed camera. We will explain why this “true” 2D case of coalescence is different from the usual 2D case with surface tension.

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