Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Spontaneous elastocapillary deformations driving the formation of 2D microcoils ADAM FORTAIS, KATHLEEN CHARLESWORTH, RAFAEL D SCHULMAN, KARI DALNOKI-VERESS, McMaster University — We report on the elastocapillary deformation of flexible microfibers in contact with bubbles trapped at the surface of a liquid bath. The elastocapillary interaction results in stunning 2-dimensional microfiber coils. Microfibers placed on top of bubbles are found to migrate to and wrap around the perimeter of the deformed liquid surface for certain bubble-fiber size combinations. A simple model incorporating surface and bending energies captures the spontaneous winding process.

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Date submitted: 11 Nov 2016 Electronic form version 1.4