Supporting Information for:

The role of substrate pre-stretch in post-wrinkling bifurcations

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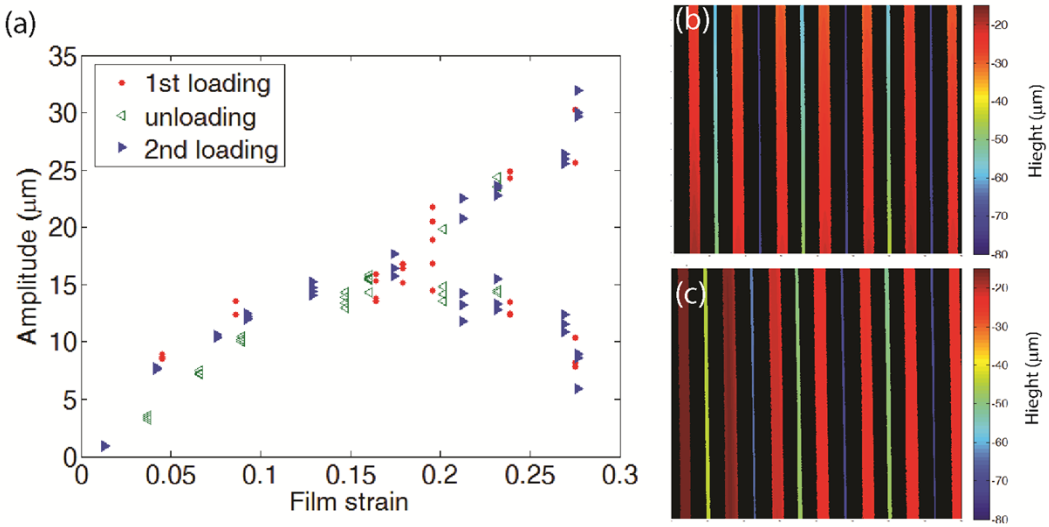

Figure S1. (a) Bifurcation curves for λ_0 = 1.0 show no detectable hysteresis from the first loading cycle to unloading and subsequent reloading. Optical profilometry images of the surface (b) during the first loading at a film strain of 0.24, and (c) during the second loading at a film strain of 0.23.

Videos

Video S1. The surface line profile (left) is shown as a function of position transverse to the direction of compression, as denoted by the solid line on the 2D profile (right), for a sample with a substrate pre-stretch of 0.7 that exhibits chaotic post-wrinkling.

Video S2. Simulation result for period doubling of wrinkles with a substrate pre-stretch of 0.7 and a modulus ratio of the film to substrate of 50.

Video S3. Simulation result for period tripling of wrinkles with a substrate pre-stretch of 0.7 and a modulus ratio of the film to substrate of 50.

Video S4. Simulation result for period quadrupling of wrinkles with a substrate pre-stretch of 0.7 and a modulus ratio of the film to substrate of 50.