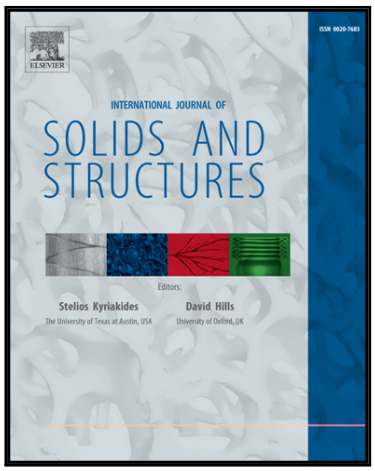

Photo-controlled patterned wrinkling of liquid crystalline polymer films on compliant substrates

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Highlights

- A novel approach to generate surface wrinkles via photo-induced instability was proposed.
- Geometric and size effects of photo illuminations on the buckling and post-buckling pattern evolution were carefully explored.
- Phase diagrams were provided to guide the photo design of surface patterns.
- A variety of wrinkling morphologies including wavy shaped, ring-like, checkerboard, stripe, herringbone and hybrid patterns were obtained.
- A simple and flexible way to design various wrinkling patterns through changing shielding plates is suggested.