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### Selected Publications:

M. W. Moon, S. H. Lee, J. Y. Sun, K. H. Oh, A. Vaziri, J. W. Hutchinson, "Wrinkled hard skins on polymers created by focused ion beam", Proc. Natl. Acad. Sci. USA 2007, Vol. 104, No. 4, 1130-1133.

J.Y. Sun, X. Zhao, W.R.K. Illeperuma, O. Chaudhuri, K.H. Oh, D.J. Mooney, J.J. Vlassak, Z. Suo, Highly stretchable and tough hydrogels, Nature, 489 (2012), pp. 133-136

Sun, J.-Y. , Xia, S. , Moon, M.-W. , Oh, K. H. , and Kim, K.-S., 2012, "Folding Wrinkles of a Thin Stiff Layer on a Soft Substrate," Proc. R. Soc. A, 468(2140), pp. 932–953.

C. Keplinger, J.Y. Sun, C.C. Foo, P. Rothemund, G.M. Whitesides, Z. Suo, Stretchable, transparent, ionic conductors, Science, 341 (2013), pp. 984-987

Sun, J. Y., Lu, N., Oh, K. H., Suo, Z. and Vlassak, J. J. [2013] "Islands stretch test for measuring the interfacial fracture energy between a hard film and a soft substrate," Journal of Applied Physics 113, 223702.

B. Chen, Y. Bai, F. Xiang, J.Y. Sun, Y. Mei Chen, H. Wang, J. Zhou, Z. Suo, Stretchable and transparent hydrogels as soft conductors for dielectric elastomer actuators, J. Polym. Sci. Pol. Phys., 52 (2014), pp. 1055-1060

J.Y. Sun, C.C. Kim, H. Lee, K.H. Oh, Highly stretchable, transparent ionic touch panel, Science, 353 (2017), p. 682

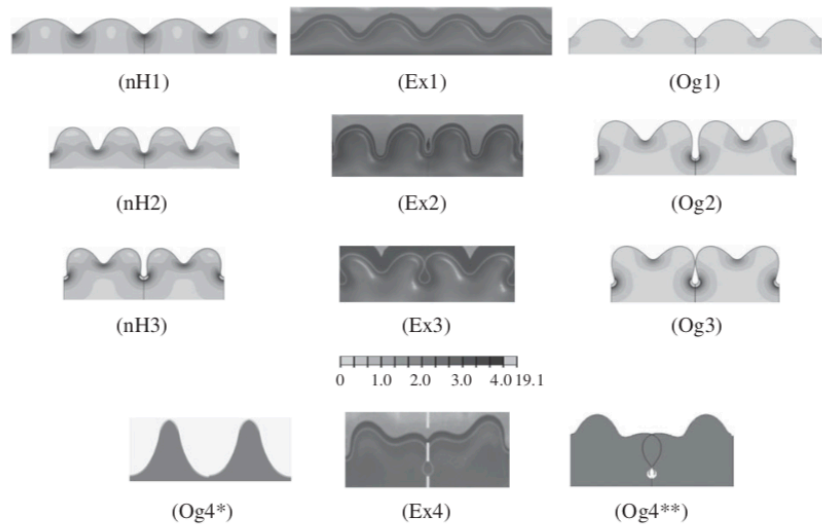


Figure 7. Equilibrium wrinkle configurations of a surface layer with asymmetric bending stiffness on a neo-Hookean substrate (nH1–3), on a PDMS substrate (Ex1–3) and on an Ogden model substrate (Og1–3). The far-field compression of  $\varepsilon_L^C = 0.12, 0.35$  and  $0.41$  by the compression control device produced local nominal compressive strain of  $\varepsilon_L^C = 0.17, 0.42$  and  $0.47$ , respectively. The local nominal compressive strains were estimated by measuring the cord length of the film in the cross-sectional view: computational equilibrium wrinkle configuration of a surface layer with *symmetric* bending stiffness, on an Ogden model substrate (Og4\*), experimental equilibrium wrinkle configuration of a 74 nm thickness gold film on a PDMS substrate (Ex4) and computational equilibrium wrinkle configurations of a surface layer with *asymmetric* bending stiffness, on an Ogden model substrate (Og4\*\*), at  $\varepsilon_L^C = 0.51$ .

Sun, J.-Y. , Xia, S. , Moon, M.-W. , Oh, K. H. , and Kim, K.-S. , 2012, "Folding Wrinkles of a Thin Stiff Layer on a Soft Substrate," Proc. R. Soc. A, 468(2140), pp. 932–953.