Abstract Submitted for the MAR08 Meeting of The American Physical Society

Delamination of thin elastic sheets from soft, sticky substrates DOMINIC VELLA, LPS ENS, PEDRO REIS, Department of Mathematics, MIT, DENIS BARTOLO, JOSE BICO, PMMH, ESPCI, AREZKI BOUDAOUD, LPS ENS, BENOIT ROMAN, PMMH, ESPCI — We study the compression of a soft elastic substrate with a thin sheet adhered to its surface. In this situation, it is energetically expensive for the thin sheet to alter its length. Instead, it accommodates its excess length by delamination from the substrate, allowing it to bend out of the plane. Rather than forming a single 'blister', however, we observe the formation of several blisters with a characteristic size. Here, we investigate the dependence of this characteristic blister size on the material properties of the system using a combination of experimental and theoretical analyses.

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Date submitted: 27 Nov 2007

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