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Measurement of Adhesion Energy and Youngs Modulus in Thin Polymer Films Using a Novel Axi-symmetric Peel Test Geometry ADAM N. RAEGEN, KARI DALNOKI-VERESS, Department of Physics & Astronomy and the Brockhouse Institute for Material Research, McMaster University, Hamilton, Canada — We present a method of probing adhesion between solids, particularly in systems involving polymers. This method uses the axi-symmetric deformation of a thin spincast polymer membrane brought into contact with a film supported on a substrate to measure the work of adhesion between the pair. In this geometry, the contact area and constitutive relation (force versus displacement curve), are measured. This enables the determination of Young's modulus, surface energy, and the pretension of the free-standing film, which are in good agreement with accepted values.

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