Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

The frustrating tearing of adhesive tape BENOIT ROMAN, PMMH UMR7636 CNRS/ESPCI/Paris6/Paris 7, EUGENIO HAMM, Departamento de Fisica, Universidad de Santiago de Chile, PEDRO M. REIS, Department of Mathematics, M.I.T., M. LEBLANC, University of Chicago, ENRIQUE CERDA, Departamento de Fisica, Universidad de Santiago de Chile — When trying to remove adhesive tape, one often only manages to peel off a useless pointy strip: the fracture tips on both sides of the pulled strip seem to attract each-other, and merge in a finite distance. Why don't they repel each other and lead to a continually increasing width of the strip, as one would like to? We will present an experimental and theoretical study of this pinch-off phenomenon in the rupture of peeled adhesive sheets. The cut shapes are very reproducibles, and we will show that the geometry of the peeling fold, where elastic energy is concentrated, plays a major role here.

Benoit Roman
PMMH, CNRS Paris

Date submitted: 02 Dec 2007 Electronic form version 1.4