

Abstract Submitted  
for the MAR12 Meeting of  
The American Physical Society

**Mechanic instabilities of swelling gels** MARTINE BEN AMAR, JULIEN DERVAUX, Ecole Normale Supérieure — While the study of gels takes undoubtedly its roots within the field of physico-chemistry, the interest for gels has flourished and they progressively became an important object in the study of the mechanics of polymeric materials and volumetric growth, rising some fascinating problems, some of them remaining unsolved. Because gels are multiphase objects, their study represents an important step in the understanding of the mechanics of complex soft matter as well as for the process of shape generation in biological bodies. I will present here experiments and models of swelling gels mainly in the cylindrical geometry which mimic various growth instabilities from tumors up to the morphogenesis of tubular organs.

Martine Ben Amar  
Ecole Normale Supérieure

Date submitted: 19 Nov 2011

Electronic form version 1.4