Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Strange instabilities of simple elastic structures DAVIDE BIGONI, DIEGO MISSERONI, University of Trento, Trento, Italy, GIOVANNI NOSELLI, Cambridge University, UK, DANIELE ZACCARIA, University of Trieste, Trieste, Italy — A class of simple elastic structures is shown exhibiting bifurcation and instability under tensile dead loading, multiple bifurcations, and softening/hardening behaviour in the postcritical regime. These structures evidences new and unexpected behaviours which are theoretically predicted and experimentally verified. These nonlinear behaviours can be exploited in the design of flexible mechanics devices and open new perspective in the control of vibrations.

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Date submitted: 25 Oct 2011 Electronic form version 1.4