



ESPCI
Laboratoire PMMH
10 rue Vauquelin, 75231 Paris Cedex 05



Séminaire PMMH

Amphithéâtre Langevin (A4), Escalier N, 2^{ème} étage

Vendredi 27 juin 2014, 11h00-12h00

James Hanna

Virginia Polytechnic Institute and State University

Metrically constrained dynamics : lariats, chain siphons, and whirling skirts

The dynamics of classical, inextensible strings and sheets are in some sense intermediate between those of point particles and rigid bodies. I will discuss simple models of these highly flexible bodies, focusing on the inertial dynamics of curves and surfaces with metric constraints. Symmetries of these constraints admit additional material flows in the bodies which can modify dynamical equilibria. Although the physics of these models is kept minimal, the retention of geometric nonlinearities in the description is crucial to a proper understanding of the dynamics.