



ESPCI
Laboratoire PMMH
10 rue Vauquelin, 75231 Paris Cedex 05



Séminaire PMMH

Bureau d'Études, Bâtiment L, 2^{ème} étage

Vendredi 5 septembre 2014, 11h00-12h00

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Contraction-driven cell motility

We propose a mechanism for the initiation of cell motility that is based on myosin-induced contraction and does not require actin polymerization. The translocation of a cell is induced by symmetry breaking of the motor-driven flow, and the ensuing asymmetry gives rise to a steady motion of the center of mass of a cell. The predictions of the model are consistent with observations on keratocytes. We then show that the model produces a distribution of myosin that is remarkably close to the optimal one.