

Modelling of Cytoskeleton Dynamics

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The movement of several types of cells is based on the dynamics of a part of the cytoskeleton, consisting of a network of actin polymers. The dynamics is induced by (de)polymerization and by protein motors and is regulated by deformation stresses, by cross linking proteins, by the mechanical properties of the cell membrane and by other mechanisms. A modelling effort will be presented, which is based on descriptions of individual monomers and on homogenization limits for the derivation of continuum models.

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