Collective cell motion in epithelial surfaces

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Collective migration of epithelial cells plays an important role in tissue growth and wound healing. One of the many interesting aspects of particle systems is its behaviour during the phase transition which is analyzed through the concept of order parameter. For this reason, we studied the displacement of cells moving in a collective way by means of numerical simulations and theoretical analysis of biological processes. In particular, the model is based on two assumptions, namely, the cells move in an stochastic way and also adapt their motion to that of their nearest neighbors. In addition, we reproduced (with a modified model) the behaviour of the system moving in an epithelium border.