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Title: 2d Epithelial tissu layers - their rigidity transition and collective cell migration

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Keywords: tissu layers

rigidity transition collective cell migration

Issue Apr-2022

Date:

Abstract:

Publisher: IISER Mohali

The viscoelasticity of a material is a quality that allows it to have both viscous and elas- tic qualities. Ordinary liquids, such as water, emulsions, foams, and other granular solids, are examples of such materials. Studies have been carried out over the past decade to better understand viscoelastic behaviour. It has been demonstrated that there is a rigidity transition from solid to liquid in solids. This solid-liquid behaviour has been found in confluent tis- sues in experiments. Using ideas from Classical Nucleation Theory and the Vertex Model, we analyse such a rigidity shift in epithelial tissues. Furthermore, we investigate the significance of Chiral Torque in collective cell migration in epithelial tissues, since experimental studies have revealed twisting in particular tissues and organs.

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