

Topics on the Formation of Dendrites

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Growth and form are the result of non-equilibrium processes or system driven out of equilibrium. Nonlinear simulations and theories of morphological instabilities have contributed to understanding the underlying mechanisms that control the selection of certain morphologies during pattern formation. In this talk, I will give a brief introduction on the formation of dendritic structures in materials and review some classical theories on the profile of the dendrite tip and the development of side-branches. I will then present some recent results.