

Slow and fast evolutions of mesostructures

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A defect of some physical theories, like thermodynamics, is that they postulate that a mixture shows only one type of mesostructure (i.e. at an intermediate level between the microscopic level of atoms and our macroscopic level), so that one needs to develop a mathematical theory for studying the evolution of mesostructures. This is far from being done, and I shall show on two examples involving heat evacuation and release of elastic stresses why there is a huge difference between a slow evolution and a fast evolution.