

Abstract Submitted
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Unexpected long range order at the early stage of spinodal decomposition¹ LEOPOLDO R. GOMEZ, DANIEL A. VEGA, Department of Physics - Universidad Nacional del Sur - Argentina — During the early stage of spinodal decomposition most of the phase separating systems lead to the formation of incoherent structures with small-range orientational and translational order. In this work we found that in the region near below the spinodal line two-dimensional systems with competing interactions can form hexagonal structures with long-range order. As a consequence of the strong mode selectivity, a network of density scars with large density fluctuations is formed at the early stage of the process of phase separation. The points of ramification of this network of scars act like nucleation centers of a hexagonal phase and ultimately define the domain structure, correlation length and statistical properties of the topological defects.

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