

Ordering kinetics with long-range interactions

Monday, 19 December 2022 15:45 (20 minutes)

We discuss the phenomenon of phase-ordering after a temperature quench in systems with long-range interactions decaying with distance r as $r^{-\alpha}$, focusing mainly on the Ising model in $d = 1$.

For $\alpha > d$ one observes formation and growth of ordered domains, with scaling exponents continuously depending on

α . For $\alpha = 0$ one has mean field, where the system coherently orders without domains formation. For $\alpha \leq d$ there is an hybrid situation where both mean-field like and coarsening like behaviors are observed as different statistical realizations of the process are considered.

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