

On the dynamics of the Becker-Döring equations

Barbara Niethammer, HU Berlin

The Becker-Döring equations are a model for cluster formation in a set of identical particles. The main assumption in this model is that clusters gain or shed only one particle at a time. Despite its simplicity the Becker-Döring equations can describe the relevant stages in a first order phase transformation, such as nucleation, metastability and coarsening.

In this talk we review several mathematical results on the long-time behavior of the Becker-Döring model and compare it to a modified, thermodynamically consistent variant which has recently been proposed by Dreyer and Duderstadt.