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Mathematisches Kolloquium

The Allen-Cahn equations and mean curvature flow

Sprecher: Dr. Tim Laux, Institute for Applied Mathematics, University of Bonn

Eingeladen von Prof. Dr. Anna Dall'Acqua

22.01.2021 | 14:30 Uhr | Online-Kolloquium via Zoom. Link wird rechtzeitig bekanntgegeben.

Mean curvature flow models the slow relaxation of grain boundaries in polycrystals, a coarsening process called grain growth. The Allen-Cahn equations are a system of reaction-diffusion equations, which were first motivated in the scalar case as a model for anti-phase boundaries in liquid-liquid phase transitions. In this talk, I will give a broad background, emphasizing the underlying gradient-flow structure of both equations. Then I will discuss recent convergence and weak-strong uniqueness results based on this structure.

Der Vortrag ist für ein breites Publikum geeignet