

The surface diffusion flow of triple junction clusters in higher space dimensions

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The surface diffusion flow is based on a model from Mullins to describe the evolution of thermal grooves on the surface of heated polycrystals. From a mathematical point of view it can be seen as a fourth order (formal) \mathcal{H}^{-1} -gradient flow that is volume conserving. While its evolution for closed hypersurfaces is well studied there are a lot of open question for surfaces with boundaries. In this talk we discuss our results for the evolution of clusters with triple junctions, which means that three hypersurfaces meet in a common boundary. This includes short time existence in a parabolic Hölder space and stability of standard double bubbles with respect to this flow.

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