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DK Seminar

Mar 15, 2017, 14:15 - 15:45
University of Vienna,
Oskar-Morgenstern-Platz 1, HS 2

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The Filament Based Lamellipodium Model in the Limit of Short Filaments

One mathematical model for the dynamics of the actin filament network in the lamellipodium of migrating cells is the *Filament Based Lamellipodium Model* – a two-dimensional, anisotropic two-phase continuum model. In this talk, a simplified version of this model will be presented. The filaments will be considered rigid and of equal length and a formal asymptotic dimension reduction limit in the regime of small filaments will be performed. The resulting one-dimensional system is a fully nonlinear conservation equation with periodic boundary conditions, describing the processes along the cell periphery.