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Approximation of non-convex anisotropic energies

The evolution of surfaces under anisotropic non-convex mean curvature flow leads to a forward-backward parabolic equation. To overcome this difficulty we perform a regularization by the Willmore energy.
Restricting to the model case of one-dimensional graphs, we discuss the theoretical background of the stationary case and present some numerical experiments for the evolution problem.
This is joint work with Paola Pozzi (Univ. Duisburg-Essen).