

Anisotropic level-set equation in relative geometry

Dieu Hung Hoang, Michal Beneš, Tomáš Oberhuber

Czech Technical University in Prague, Czech Republic

hoang.dieu.hung@fjfi.cvut.cz, michal.benes@fjfi.cvut.cz, tomas.oberhuber@fjfi.cvut.cz

This contribution is concerned with the level-set formulation of anisotropic mean curvature flow in relative geometry [1], presentation of its basic mathematical properties, development of numerical scheme, and qualitative computational studies. For this purpose, the results of [2] are extended to our problem. Properties of the numerical scheme, based on the method of lines and finite difference method, are discussed. Finally, computational results with various anisotropy settings are presented.

References

- [1] *G. Bellettini, M. Paolini*: Anisotropic motion by mean curvature in the context of Finsler geometry. *Hokkaido Math. J.* *25* (1996), 537–566.
- [2] *K. Deckelnick, G. Dziuk*: Discrete anisotropic curvature flow of graphs. *ESAIM: Math. Model. Numer. Anal.* *33* (1999), 1203–1222.