

Gastvortrag

Donnerstag, 2. Mai 2019
Uhrzeit: 10:00 Uhr
Seminarraum II

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A projected gradient flow for the generalized integral Menger curvature in the Hilbert case

Abstract:

In his dissertation, Jan Knappmann proves that, in most cases, the generalized integral Menger curvature has a locally Lipschitz continuous differential. In case the associated space is a Hilbert space, this makes it easier to show short time existence of a gradient flow. It turns out that lower bounds for the existence time depend on the norm and the bi-Lipschitz constant of the initial curve, so if we can control these, we can show long time existence. This can be done via means provided by Simon Blatt and Philipp Reiter, but only if the parametrization does not change along the flow. To ensure this, the gradient is projected as done in chapter 6 of J.W. Neuberger's Sobolev gradients and differential equations. The boundary condition used here is due to Henrik Schumacher, Sebastian Scholtes and Max Wardetzky.