



Sommersemester 2019

Oberseminar
Geometrische Analysis, Differentialgeometrie und Relativitätstheorie

Am Donnerstag, den 11.07.2019 spricht um 14 Uhr c. t. im Raum S 09

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über das Thema

Curvature pinching estimates for a fully nonlinear flow of three-convex hypersurfaces

In a 2015 paper, Brendle and Huisken introduced a fully nonlinear flow of two-convex hypersurfaces in Riemannian manifolds. Under a sharp curvature condition on the background space, they establish a package of a priori estimates, and use these to define a flow with surgeries for compact embedded solutions. Crucial to their analysis is a so-called convexity estimate, which shows that at points where the curvature is blowing up, the second fundamental form is becoming nonnegative.

Our focus in this talk will be the analogous flow for three-convex hypersurfaces. While much of the work done by Brendle-Huisken carries over easily to this more complicated flow, proving a convexity estimate seems to be a subtle issue. We will describe here a perturbative result, which says that if a solution is sufficiently close to being convex at the initial time then it remains so, and also satisfies a convexity estimate.

Hierzu wird herzlich eingeladen.

C. Cederbaum, G. Huisken