



Oberseminar
Geometrische Analysis, Differentialgeometrie und Relativitätstheorie

Am Donnerstag, den **16.10.2025** spricht um **14 Uhr s.t.** im Raum **C4H33** und über Zoom

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über das Thema

Curve Shortening Flow on a Surface with Ricci Flow Background

We will study the evolution of embedded closed curves by a curve shortening flow on a smooth closed surface whose background metric evolves by the volume-normalized Ricci flow. We consider the ratio of extrinsic and intrinsic distances along the curve and show that under this coupled flow, this ratio can deteriorate at most exponentially at local minima. For curves that survive for infinite time, using integral estimates, we show that the curvature and all its higher derivatives converge to zero. As an application, we consider the evolution of curves foliating the topological two-sphere and show that there exists exactly one curve that survives the coupled flow for infinite time and smoothly (sub)converges to a great circle on the round sphere.

Den Zoom-Link erhalten Sie per E-Mail von Martina Neu.

For participating online, please sign up by sending an email to Martina Neu.

Hierzu wird herzlich eingeladen.

Rodrigo Avalos, Carla Cederbaum, Gerhard Huisken, zusammen mit Jan Metzger (Potsdam)