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New convergence results for the Ricci flow III (Convergence results for the Ricci flow in high dimensions)

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Abstract

In the second talk we have reduced the problem of proving a convergence results for the Ricci flow to an explicit ODE-problem in the vectorspace of algebraic curvature operators. It turns however that the ordinary differential equation is poorly understood in dimensions above 4. In this talk we will indicate how one can overcome this problem in many cases by studying how the ordinary differential equation transforms under linear transformations. We show that normalized Ricci flow evolves metrics on compact manifolds with positive curvature operators to metrics of constant curvature. We also indicate what is needed in addition to prove Brendle and Schoen's sphere theorem on quarter pinched manifolds.