



Mathematics > Differential Geometry

Generalized Ricci flow I: Local existence and uniqueness

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In this paper we investigate a kind of generalized Ricci flow which possesses a gradient form. We study the monotonicity of the given function under the generalized Ricci flow and prove that the related system of partial differential equations are strictly and uniformly parabolic. Based on this, we show that the generalized Ricci flow defined on a n -dimensional compact Riemannian manifold admits a unique short-time smooth solution. Moreover, we also derive the evolution equations for the curvatures, which play an important role in our future study.

- Comments: The paper consists of 20 pages of text. The paper was completed about on May, 2007 and delivered at the Proceedings of Nankai International Conference in Memory of Xiao-Song Lin, 27-31 July 2007. This paper is putted here for many mathematicians are recently interested in some topics involved
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