Mathematics > Differential Geometry

Geodesics and distance on the Riemannian manifold of Riemannian metrics

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Given a fixed closed manifold M, we exhibit an explicit formula for the distance function of the canonical L^2 Riemannian metric on the manifold of all smooth Riemannian metrics on M. Additionally, we examine the completion of the manifold of metrics with respect to the L^2 metric and show that there exists a unique minimal path between any two points. This path is also given explicitly.

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