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Geodesics in the space of Kahler metrics

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Abstract

The space of Kahler metrics on a fixed compact Kahler manifold M is an infinite dimensional Riemannian manifold H whose structure has been studied by Mabuchi, Semmes and Donaldson. In particular, Donaldson has shown that the existence of geodesics in H is closely related to the existence and uniqueness of constant scalar curvature metrics on M . I will survey some of the recent work on this subject.