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Uniqueness of Sasaki-extremal metrics

Craig van Coevering*

craigvan@ustc.edu.cn

As in Kähler geometry one can define a Sasaki-extremal metric to be a critical point of the Calabi functional. They provide the most general definition of a "canonical" metric. In particular, constant scalar curvature Sasakian metrics are Sasaki-extremal.

We will discuss a proof that a Sasaki-extremal metric with a fixed Reeb foliation, with its transversally holomorphic structure, is unique up to diffeo- morphisms preserving the Reeb foliation with its holomorphic structure. This involves proving that the K-energy is convex along weak geodesics in the space of metrics. We will also consider some applications to Sasakian manifolds.

Most of the results to be discussed are contained in the preprint arXiv:1511.09167.

*Department of Mathematics 15-01, U.S.T.C., 96 Jin Zha Rd. Baohec, Anhui, Hefei, Anhui 230026, PR CHINA