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Autor: HWANG, Andrew D.

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literature. An instance of the integral transform (2.6) appears in a remark of Calabi [1]. The construction as treated in this note perhaps owes its biggest debt to a paper of Koiso and Sakane [6], in which momentum coordinates are used to construct positive Einstein-Kähler metrics. The paper [4] is in part an attempt to frame various differential-geometric constructions in “momentum” language, while simultaneously unifying and generalizing existing results. The momentum construction for surfaces of revolution is elementary, but seems not to be widely appreciated. It is hoped that the present note will help popularize this little gem of differential geometry.

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REFERENCES

- [1] CALABI, E. Métriques kählériennes et fibrés holomorphes. *Ann. Sci. École Norm. Sup. (4)* 12 (1979), 268–294.
- [2] ——— Extremal Kähler metrics. In: *Seminar on Differential Geometry* (ed. S. T. Yau), 259–290. *Ann. of Math. Stud.* 102, Princeton Univ. Press, 1982.
- [3] ENGMAN, M. Trace formulae for S^1 invariant Green’s operators on S^2 . *Manuscripta Math.* 93 (1997), 357–368.
- [4] HWANG, A. D. and M. A. SINGER. A momentum construction for circle-invariant Kähler metrics. *Trans. Amer. Math. Soc.* 354 (2002), 2285–2325.
- [5] KAZDAN, J. and F. W. WARNER. Curvature functions for compact 2-manifolds. *Ann. of Math. (2)* 99 (1974), 14–47.
- [6] KOISO, N. and Y. SAKANE. Nonhomogeneous Kähler-Einstein metrics on compact complex manifolds. In: *Curvature and Topology of Riemannian Manifolds*, 165–179. *Lecture Notes in Mathematics 1201*, Springer, 1986.
- [7] TAIMANOV, I. A. Surfaces of revolution in terms of solitons. *Ann. Global Anal. Geom.* 15 (1997), 419–435.

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Andrew D. Hwang

Dept. of Mathematics and Computer Science
 College of the Holy Cross
 Worcester, MA 01610-2395
 U. S. A.
 e-mail: ahwang@mathcs.holycross.edu