ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

5. Differential Geometry and Global Analysis

1991 MS Classification: 53C42, 53C40
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Positively curved totally complex submanifolds in the Cayley projective space

Let M be a compact totally complex submanifold of complex dimension 2 in the Cayley projective plane CaP^2. Denote by K the sectional curvature of M. In [2], it was proved that the compact totally complex submanifold M of complex dimension 2 in cayley projective plane CaP^2 satisfying $K > \frac{1}{8}$ is totally geodesic and M is CP^2. In the present paper we proved that if the sectional curvature K of M satisfies $K > 0$, then M is totally geodesic and M is CP^2.
Reference: [1] P. Coulton and J. Glazebrook, Submanifolds of Cayley projective plane with bounded second fundamental form, *Geom. Dedi.* **33** (1990), 265-272. [2] Liu Ximin, Totally complex submanifolds of the Cayley projective plane, *Tsukuba J. of Math.* to appear. [3] K. Tsukada, Parallel submanifolds in a quaternion projective space, *Osaka J. Math.* **22** (1985), 187-241.