

Twistorial maps between quaternionic manifolds

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This paper is dedicated to the memory of Kris Galicki

Abstract. We introduce a natural notion of *quaternionic map* between almost quaternionic manifolds and we prove the following, for maps of rank at least one:

- A map between quaternionic manifolds endowed with the integrable almost twistorial structures is twistorial if and only if it is quaternionic.
- A map between quaternionic manifolds endowed with the nonintegrable almost twistorial structures is twistorial if and only if it is quaternionic and totally-geodesic.

As an application, we describe all the quaternionic maps between open sets of quaternionic projective spaces.

Mathematics Subject Classification (2010): 53C28 (primary); 53C26 (secondary).