

Welcome Home Workshop 2014

NOME: Marco

COGNOME: Radeschi

AFFILIAZIONE: WWU Muenster - KIT Karlsruhe

POSIZIONE: Postdoc

EMAIL: marco.radeschi@gmail.com

LINGUA PER LA CONFERENZA: italiano

TITOLO: On a conjecture of Berger on manifolds all of whose geodesics are closed

COAUTORI: Burkhard Wilking

Abstract

Riemannian manifolds in which every geodesic is closed, have been studied since the beginning of last century, when Zoll showed the existence of a non-round metric on the 2-sphere all of whose geodesics are closed. Among the many open problems on the subject, a conjecture of Berger states that for any simply connected manifold all of whose geodesics are closed, the geodesics must have the same length. The result was proved in the case of the 2-sphere by Grove and Gromoll. In this talk, I will show recent work with B. Wilking, where we prove that the Berger conjecture also holds for topological spheres of dimension > 3 . If time permits, I will discuss current work on how to extend the result to S^3 , and to projective spaces.