1035-53-1180   **Fernando Galaz-Garcia*** (`galazg@math.umd.edu`), Department of Mathematics, University of Maryland, College Park, MD 20742. *On the classification of low-dimensional fixed point homogeneous Riemannian manifolds with nonnegative sectional curvature.* Preliminary report.

Let G be a compact Lie group acting isometrically on a compact Riemannian manifold M with nonempty fixed point set M^G. We say that M is *fixed point homogeneous* if G acts transitively on a normal sphere to some component of M^G. Simply connected fixed point homogeneous manifolds with positive sectional curvature have been completely classified. We will discuss the structure of fixed point homogeneous Riemannian manifolds with nonnegative curvature and their classification in low dimensions. (Received September 19, 2007)

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