

Andreas Arvanitoyeorgos

Homogeneous Einstein metrics on Stiefel manifolds

Comment.Math.Univ.Carolinae 37,3 (1996) 629-636.

Abstract: A Stiefel manifold $V_k\mathbf{R}^n$ is the set of orthonormal k -frames in \mathbf{R}^n , and it is diffeomorphic to the homogeneous space $SO(n)/SO(n-k)$. We study $SO(n)$ -invariant Einstein metrics on this space. We determine when the standard metric on $SO(n)/SO(n-k)$ is Einstein, and we give an explicit solution to the Einstein equation for the space $V_2\mathbf{R}^n$.

Keywords: Riemannian geometry, homogeneous spaces, Einstein metrics, Stiefel manifolds

AMS Subject Classification: 53C20, 53C25, 53C30