

Włodzimierz Jelonek (Cracow Technical University, Cracow, Poland)
Gray four dimensional manifolds

Abstract: We present compact examples of four dimensional Riemannian and semi-Riemannian manifolds whose Ricci tensor satisfies the Gray condition. Our construction is on the sphere bundles over Riemannian surfaces of arbitrary genus g . We also give partial classification of such manifolds, we classify Gray manifolds (M, g) which admit two orthogonal Hermitian structures compatible with both different orientations of M .