

Compact Kerr-de Sitter Einstein metrics in all higher dimensions

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Abstract

G. W. Gibbons, H. Lu, C. N. Pope, and I have given in [hep-th/0404008](#) the general Kerr-de Sitter metric in all higher dimensions, $D > 4$. From the Euclidean-signature versions, we derived the regularity conditions to give complete non-singular compact Einstein metric on associated $S^{(D-2)}$ bundles over S^2 . For each even D , we showed there is just one nontrivial example, given previously by Y. Hashimoto et al, [hep-th/0402199](#). But for each odd $D > 4$, there are infinitely many examples, including infinitely many compact Einstein metrics on the topological product of S^2 and $S^{(2n+1)}$ for each positive integer n .