

Compact Homogeneous Spaces with Positive Euler Characteristic and their ‘Strange Formulae’

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Abstract

I will speak on [1] "*Compact Homogeneous Spaces with Positive Euler Characteristic and their ‘Strange Formulae’*," that arises out of my collaborative publication with Dr. J. Burns. I am planning to prove a generalisation of the "Strange formula" of Freudenthal and de-Vries for compact homogeneous spaces with positive Euler characteristic. I will apply the results to computing a topological invariant used to study hyper-Kähler structures. In my talk I will make use of a sharpened version of Borel and de Siebenthal Theorem in [2], where the isotropy representation of K on the tangent space to G/K is described, in which K denotes a maximal connected subgroup of maximal rank in a compact simple Lie group G .

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- [1] J. M. Burns and M. A. Makrooni, *Compact Homogeneous Spaces with Positive Euler Characteristic and their ‘Strange Formulae’*. *Quart. J. Math.* 66 (2015), 507-516.
[2] J.A. Wolf. *Spaces of Constant Curvature* McGraw-Hill, New York (1967).