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**Invariant measures on homogeneous manifolds of reductive type.** (English) Zbl 0881.22013

*J. Reine Angew. Math.* 490, 37-54 (1997).

We say that the homogeneous manifold  $G/H$  is of reductive type if  $G$  is a real reductive linear Lie group and if  $H$  is a connected closed subgroup which is reductive in  $G$ . Semisimple symmetric spaces (especially, Riemannian symmetric spaces and semisimple group manifolds) and semisimple orbits are of reductive type. In this paper, we give an explicit upper estimate of the invariant measure on the homogeneous manifold  $G/H$  of reductive type. Furthermore, we also establish a comparison theorem of the measures of homogeneous submanifolds. These results are used for the construction of new discrete series representations for non-symmetric homogeneous manifolds of reductive type in a subsequent paper [to appear in *J. Funct. Anal.*].

Reviewer: [T.Kobayashi \(Tokyo\)](#)

**MSC:**

[22E46](#) Semisimple Lie groups and their representations  
[43A85](#) Harmonic analysis on homogeneous spaces  
[53C35](#) Differential geometry of symmetric spaces  
[22E15](#) General properties and structure of real Lie groups  
[22E30](#) Analysis on real and complex Lie groups

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**Keywords:**

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