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The size of infinite-dimensional representations*

David A. Vogan, Jr.

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Abstract. An infinite-dimensional representation π of a real reductive Lie group G can often be thought of as a function space on some manifold X. Although X is not uniquely defined by π, there are "geometric invariants" of π, first introduced by Roger Howe in the 1970s, related to the geometry of X. These invariants are easy to define but difficult to compute. I will describe some of the invariants, and recent progress toward computing them.

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D.A. VOGAN, JR.
2-355, Department of Mathematics, MIT, Cambridge, MA 02139, USA
(e-mail: dav@math.mit.edu)