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*Signatures of Invariant Hermitian Forms*

Classifying the irreducible unitary representations of a reductive Lie group may be formulated as the algebraic problem of classifying the irreducible Harish–Chandra modules which admit a positive definite invariant Hermitian form. It is thus of interest to study signatures of invariant Hermitian forms and to understand how positivity can fail. A special case, which may be a necessary first step in finding a general answer, is the computation of the signature of the Shapovalov form on irreducible Verma modules  $M(\lambda)$ . Computing the signature of the Shapovalov form on irreducible highest weight modules  $L(\lambda)$  may provide insight into the potentially analogous problem of computing signatures of invariant Hermitian forms on standard limit representations and perhaps may yield some interesting information concerning composition series of Verma modules.