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Title: Restricting representations to a reductive subgroup.

Abstract: Let  $G$  be a reductive subgroup of a reductive group  $G'$ . We are interested to the irreducible representation  $V(\lambda)$  of  $G$  which occurs as subrepresentation of a given irreducible representation  $V(\lambda')$  of  $G'$ . More precisely, we consider the convex cone  $C$  generated by the pairs  $(\lambda, \lambda')$  as above. In fact, these cones have numerous interpretations and a rich history. Here, we will explain how Geometric Invariant Theory allows to give a (almost) minimal list of linear inequalities which characterizes  $C$ .