

ANNIHILATORS OF GENERALIZED VERMA MODULES OF THE SCALAR TYPE FOR CLASSICAL LIE ALGEBRAS

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Dedicated to Roger Howe on the occasion of his 60th birthday.

ABSTRACT. We construct a generator system of the annihilator of a generalized Verma module of a classical reductive Lie algebra induced from a character of a parabolic subalgebra as an analogue of the minimal polynomial of a matrix. In a classical limit it gives a generator system of the defining ideal of any semisimple co-adjoint orbit of the Lie algebra. We also give some applications to integral geometry.