

ALGEBRA
DISSERTATION DEFENSE

Killing forms of Lie algebras

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Abstract: One approach to the problem of classifying Lie Algebras is to find invariants. One such invariant is the Killing form. In this talk I will give a formula for computing the Killing form of an isotropic Lie algebra defined over an arbitrary field of characteristic zero, based on the Killing form of a subalgebra containing its anisotropic kernel. I will then explicitly compute the Killing form for several Lie algebras of exceptional type and give a general formula for the Killing form of all inner type Lie algebras of type E6, including the anisotropic ones.

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