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Title: Polynomial bases of split simple Lie algebras

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We show that every simple Lie algebra \mathfrak{g} of real rank at least two is isomorphic to a space of polynomials defined on the group $N = \exp \mathfrak{n}$, where \mathfrak{n} is the nilpotent component of the Iwasawa decomposition of \mathfrak{g} . Using suitable coordinates on N , we then write a basis of this space of polynomials when \mathfrak{g} is split.

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