

Lie Groups and Representation Theory Seminar at the University of Tokyo

リー群論・表現論セミナー

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PLACE Online

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TITLE A 型の極小表現の類似の分類
Classification of type A analogues of minimal representations

ABSTRACT A 型でない単純 Lie 環 \mathfrak{g} の普遍包絡環は、随伴多様体が極小冪零軌道の閉包と一致する完全素イデアル (Joseph イデアル) をただ一つ持つ。単純 Lie 群の既約認容表現が極小表現であるとは、微分表現の零化イデアルが Joseph イデアルとなることをいう。極小表現は簡単な K-type 分解を持ち、複素共役を除いて高々 2 つしか存在しないことが知られている。以上の一連の事実の、A 型の単純 Lie 群 (Lie 環) に対する類似をお話する。

If \mathfrak{g} is a simple Lie algebra not of type A, the enveloping algebra $U(\mathfrak{g})$ has a unique completely prime primitive ideal whose associated variety equals the closure of the minimal nilpotent orbit. The ideal is called the Joseph Ideal. An irreducible admissible representation of a simple Lie group is called minimal if the annihilator of the underlying $(\mathfrak{g}, \mathfrak{k})$ -modules is given by the Joseph ideal. Minimal representations are known to have simple \mathfrak{k} -type decompositions (called pencil), and a simple Lie group has at most two minimal representations up to complex conjugate. In this talk, we consider the type A analogues for the above statements.