



Seminário do Grupo de Álgebra e Geometria

Geometry and Arithmetic of commuting tuples in Lie Groups

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Resumo

The space of representations of a finitely generated group H into a complex reductive Lie group G is an algebraic variety with interesting Geometry and Topology.

In this talk, we focus on some simple examples, such as: H is free abelian, and G is $GL(n, \mathbb{C})$ (invertible complex matrices of rank n) in which topological invariants can be determined explicitly. Surprisingly, the same explicit calculations allow us to count the number of points of these varieties in finite fields: in particular, we get the number of points in finite fields of the variety of n -tuples of commuting matrices, up to simultaneous conjugation.

This is joint work with S. Lawton (George Mason) and J. Silva (ISEL).

Detalhes do Seminário

- **Data:** 16 de outubro de 2025
- **Hora:** 14:00 – 15:00
- **Local:** Sala Sousa Pinto

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