CURSO DE DOCTORADO

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Classification and Identification of Lie algebras

The purpose of these lectures is:

- to present the mathematical objects and methods useful in the identification of Lie algebras,
- to develop the essential computational skills necessary for that purpose,
- to review some known facts about the structure of complex and real finite dimensional Lie algebras.

The following topics are to be covered:

- motivation, basic notions, structure of semisimple Lie algebras,
- invariants of the coadjoint representation, a.k.a. Casimir invariants,
- basis independent properties of Lie algebras and their use in the identification,
- explicit decomposition into a direct sum,
- Levi decomposition,
- computation of the nilradical,
- nilpotent Lie algebras, solvable Lie algebras with a given nilradical,
- implementation of these algorithms in computer algebra system Maple.

Organized by Instituto de Matemática Interdisciplinar (IMI) and ERASMUS teaching staff

Fechas: 21-27, 29-30 de noviembre de 2018
Hora: de 16:00 a 18:00 horas
Lugar: Aula 225
Facultad de CC Matemáticas, UCM