Gelfand-Tsetlin representations for $\text{gl}(n)$

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Tuesday, November 6, 2018 - 1:30pm to 3:30pm

PDL C-36

Pre-seminar: Weight representations of semisimple Lie algebras

We will discuss the theory of weight representations (with respect to a fixed Cartan subalgebra) for semisimple finite dimensional Lie algebras. We will discuss state of the art of the theory and focus on the classification problem of simple infinite dimensional weight representations justifying the importance of studying Gelfand-Tsetlin modules. Basic introduction to the Gelfand-Tsetlin theory will be given.

Main seminar: Gelfand-Tsetlin representations for $\text{gl}(n)$

Gelfand-Tsetlin representations form an important class of weight representations of the general linear Lie algebra. Classification and explicit construction of such modules are difficult problems solved fully only for $n=2$ and $n=3$. We will give overview of the Gelfand-Tsetlin theory based on recent joint results with D.Grantcharov, L.E.Ramirez, P.Zadunaisky and J.Zhang.