



istanbul matematiksel bilimler merkezi
istanbul center for mathematical sciences

DOUBLE AFFINE HECKE ALGEBRAS

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Abstract

This will be a lecture series.

Lecture 1. Current algebras and Weyl modules

- Definition of the Lie algebra $\mathfrak{g} \times \mathfrak{k}[t]$
- Definition of local and global Weyl modules
- Structure of Weyl modules: highest weight algebra, fusion products, dimension of local Weyl modules

Lecture 2. DAHA and Macdonald polynomials

- Definition of DAHA and polynomial representation
- Nonsymmetric Macdonald polynomials
- Combinatorial formulas for nonsymmetric Macdonald polynomials
- Symmetric Macdonald polynomials

Lecture 3. Relations between Weyl modules and Macdonald polynomials

- Specialization of parameters to Macdonald polynomials
- Decomposition procedure, generalization of Weyl modules and computation of characters

Date : Thursday, December 16, 2021

Time: 21:00

Place: IMBM, Boğaziçi University South Campus