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A Combinatorial Presentation for the Hecke Category

Wednesday, July 23, 2025 11:00 AM (30 minutes)

Ever since being defined in the 1970s, the Kazhdan–Lusztig polynomials have been a source of research problems for representation theorists. Recently, interpreting these polynomials as composition factors of modules in the Hecke category has resulted in proof of the famous Kazhdan–Lusztig positivity conjecture and helped produce a counter-example to Lusztig's equally famous conjecture. In this talk, we'll present a 'nice' combinatorial way to describe the algebraic structure of the Hecke category using (the top half of) oriented Temperley-Lieb diagrams. This will allow us to create an isomorphism between the Hecke category and Khovanov arc algebra (of knot theory fame) in type D, which this talk will focus on, although similar results for types A and B exist.

Motivation for Participation

Application for a talk

E-Mail

Special requests and comments

Academic Status

Financial Support

Institution (University)

Topic of your talk

Comments and Suggestions on the Community Agreement

Nationality

Country of Institution

Preferred Name

Gender

Preferred Pronouns

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