



天津大學應用數學中心

Center for Applied Mathematics, Tianjin University

学术报告

Beyond Young tableaux.

**A new combinatorial model in
the representation theory of Lie algebras**

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Time : 16:00-17:00, June 28 (Wednesday), 2023

Venue : Room 108, Building 6

Abstract : Young tableaux are certain fillings of Young diagrams with positive integers; they have long been used for computations in the representation theory of the type A Lie algebra \mathfrak{sl}_n and the corresponding affine algebra. I will present a new combinatorial model, called the alcove model, which works uniformly across all Lie types (finite and affine). In particular, this model realizes the respective crystals, which are colored directed graphs encoding information about certain representations (highest weight modules and Kirillov-Reshetikhin modules). I will also explain the way in which various related computations can be carried out in terms of this model. The talk is largely self-contained.

Welcome!