北京理工大学

2024 TALKS IN COMBINATORICS

Shiyun Wang is a Postdoctoral Associate at the University of Minnesota Twin Cities. She obtained her PhD in mathematics from USC in 2023. Shiyun developed research interests in algebraic and enumerative combinatorics, tableaux combinatorics, symmetric functions, and quasi-symmetric functions in relation to representation theory. Her current work focuses on the Stanley–Stembridge Conjecture and row-strict dual immaculate functions with connections to 0-Hecke algebra.

The Stanley–Stembridge Conjecture
for $2+1+1$-avoiding unit interval orders

A natural unit interval order is a naturally labelled partially ordered set that avoids patterns $3+1$ and $2+2$. To each natural unit interval order one can associate a symmetric function. The Stanley–Stembridge conjecture states that each such symmetric function is positive in the basis of complete homogenous symmetric functions. This conjecture has connections to cohomology rings of Hessenberg varieties, and to Kazhdan–Lusztig theory. We use a diagrammatic technique to re-prove the special case of the conjecture for unit interval orders additionally avoiding pattern $2+1+1$. Originally this special case is due to Gebhard and Sagan.

Apr 24 (Wed) 10.00–11.00 pm (China standard time)

Zoom 237 118 5551

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