

Abstract

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March 31, 2023

k-Schur functions in superspace.

The Macdonald polynomials are one of the most important basis for the algebra of symmetric functions and are widely studied. In 1988, it was conjectured that that the coefficients of these polynomials belong to $\mathbb{N}[q, t]$ and this fact is known as the Macdonald positivity conjecture (proved by Haiman in 2001). Looking for a proof of this conjecture using SSYT Lapointe, Lascoux & Morse defined a new family of symmetric functions called atoms that have very interesting properties. The idea of this talk is to show experimentally (without formal definition) a family of symmetric functions in superspace, such that they satisfy the most important properties of the atoms. This family is the k-Schur functions in superspace.