

abstract

Joint Princeton Mathematical Physics Seminar
Topic:

Speaker:

Affiliation:

Date:

Time/Room:

Macdonald processes are probability measures on sequences of partitions defined in terms of nonnegative specializations of the Macdonald symmetric functions and two parameters $q, t \in [0,1)$. Utilizing the Macdonald difference operators we prove several results about observables of these processes, including Fredholm determinant formulas for q -Laplace transforms. Taking limits and degenerations we arrive at new results in the study of certain directed polymers, branching processes, quantum many body systems, interacting particle systems and stochastic PDEs. This is based on joint work with Alexei Borodin.