



Du
02
FÉV.
2023

14h00
-
15h00

SÉMINAIRE PHILIPPE FLAJOLET

Symmetric functions and interacting particle processes

IHP

INSCRIPTION

Macdonald polynomials are a family of symmetric functions that are known to have remarkable connections to a well-studied particle model called the asymmetric simple exclusion process (ASEP). The modified Macdonald polynomials are obtained from the classical Macdonald polynomials using an operation called plethysm. It is natural to ask whether the modified Macdonald polynomials are related to some other particle system. We answer this question in the affirmative with a certain multispecies totally asymmetric zero-range process (TAZRP). This link motivated a new tableaux formula for modified Macdonald polynomials. We present a Markov process on those tableaux that projects to the TAZRP and derive formulas for stationary probabilities and certain correlations, proving a remarkable symmetry property. We also discuss some specializations of the tableaux formulas coming from ASEP and TAZRP to obtain some classical results. This talk is based on joint work with Arvind Ayyer and James Martin.

URL of the page: <https://www.ihp.fr/fr/agenda/symmetric-functions-and-interacting-particle-processes>



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HORAIRES

L'institut :

- lundi au vendredi de 8h30 à 18h,
- fermé les jours fériés.

Le musée - Maison Poincaré :

- lundi, mardi, jeudi et vendredi de 9h30 à 17h30,
- samedi de 10h à 18h,
- fermé le mercredi et le dimanche.