

Some Properties of Random Staircase Tableaux

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Abstract

In this talk we discuss a relatively new combinatorial structure called staircase tableaux. It was introduced in 2009 by S. Corteel and L. Williams in connection with the Asymmetric Exclusion Process (ASEP), a particle model used in statistical mechanics. Staircase tableaux are also connected to Askey-Wilson polynomials. In their paper, Corteel and Williams called for an investigation of basic properties of staircase tableaux. In this talk we take a first step in that direction: after defining staircase tableaux we will describe a probabilistic approach that allows us to analyze some basic parameters of randomly chosen staircase tableau of a given size.

This talk is based on joint work with Sandrine Dasse-Hartaut (currently a PhD student at LIAFA).