

A Combinatorial Approach to the Asymmetric Exclusion Process

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This talk concerns the partially asymmetric exclusion process on a finite lattice with open boundaries. I will explain a mysterious connection between this model and the non-negative part of the Grassmannian, and connect the model to the combinatorics of L-diagrams, permutations, and, more generally, staircase tableaux. If time permits, I'll also discuss an unexpected interpretation of a nonphysical specialization of the ASEP.