

THE FLUCTUATIONS OF THE POLYNUCLEAR GROWTH MODEL WITH FLAT INITIAL CONDITIONS

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In the last several years there have been considerable progress in the understanding of the fluctuation properties of the one-dimensional growing surface. In these developments the polynuclear growth (PNG) model has been the most well-studied due to its physical and technical simplicity.

In this presentation it will be shown that the scaling limit of the multi-point joint distributions of the surface height of the PNG model with flat initial conditions are described by the Airy_1 process. This process first appeared in a study of the continuous time totally asymmetric simple exclusion process (TASEP) and our analysis is based on its discretization.