KPZ models in half space and Pfaffian point processes

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Abstract: In this talk we present our recent work [1] on the KPZ models in half space. For the log-gamma polymer model and the stochastic heat equation in half space, we obtain Fredholm Pfaffian formulas for the distribution of free energies. Taking a proper scaling limit for the Pfaffian formulas, we rigorously show that the random free energies exhibit the Baik-Rains transition: by changing the strength of boundary parameters, their distributions show GSE-GOE-Gaussian crossover.

[1] Imamura, Takashi and Mucciconi, Matteo and Tomohiro, Sasamoto: Solvable models in the KPZ class: approach through periodic and free boundary Schur measures, arXiv:2204.08420