

Herbert Spohn

Quantum spin chains and the Kardar-Parisi-Zhang equation

Two points of contact will be discussed on an introductory level. (1) The line ensemble generated by the XXZ chain can be viewed as a vicinal surface. The KPZ equation then governs the fluctuations of facet edges. (2) One expects that equilibrium time correlations for non-integrable quantum chains show a peak structure related to the stationary KPZ equation. This connection relies on almost conserved phase differences, which presumably holds in a particular parameter range.