

Wick polynomials of random variables provide a convenient regularization scheme of the corresponding monomials. In this talk, we apply the Wick polynomial regularization to the discrete nonlinear Schrodinger evolution (DNLS) with suitable random, spatially homogeneous initial data, and show how they can be employed to simplify the cumulant hierarchy of the system. In particular, we use the simplified hierarchy to study evolution of the corresponding Wigner functions. We discuss how recent advances in the study of such hierarchies might be combined to both derive a finite volume version of the kinetic evolution equation, and to control its accuracy for large volumes and sufficiently small couplings. The talk is based on joint works with Matteo Marozzi, Alessia Nota, Herbert Spohn, and Aleksis Vuoksenmaa.