Strongly interacting 2D Bose-luquid and Non-Hermitean Matrix Dynamic

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Abstract

A model Hamiltonian for 2D Bose-liquid with long-range interaction is considered, which leads to the Jastrow-type ground state eigenfunction as an exact solution. This Hamiltonian is shown to possess nonrelativistic supersymmetry and to be equivalent to the Hamiltonian that governs Dyson-type dynamics of complex eignevalues for the Gaussian ensemble of nonhermitean normal random matrices.