

We have performed an analytical study of quantum-classical equivalence for quantum XY-spin chains with arbitrary interactions to explore the classical counterpart of the factorizing magnetic fields that drive the system into a separable ground state. We demonstrate that the factorizing line in parameter space of a quantum model is equivalent to the so-called natural boundary that emerges in mapping the quantum XY-model onto the two dimensional classical Ising model. As a result, we show that the quantum systems with the non-factorizable ground state could not be mapped onto the classical Ising model. Based on the presented correspondence we suggest a promising method for obtaining the factorizing field of quantum systems through the commutation of the quantum Hamiltonian and the transfer matrix of the classical model.