

Quantifying Entanglement in One-Dimensional Heisenberg Spin Chain (MSc Seminar)

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PLACE: C3024

ABSTRACT: In this work, I will study the entanglement between pairs of spins in the one-dimensional Heisenberg spin chain. First, I will explore how entanglement depends on temperature and coupling constants without an external magnetic field. Then, I will consider an external magnetic field applied to the system to study the effect of the magnetic field on the entanglement. To model the system, I will use the Hamiltonian of the 1D Heisenberg spin chain. The density matrix is then calculated from the Hamiltonian. To quantify the entanglement, I will use concurrence, which works very well for mixed states..

ALL ARE WELCOME!