

Abstract Submitted
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Spectrum, symmetries, and dynamics of Heisenberg spin-1/2 chains KIRA JOEL, DAVIDA KOLLMAR, LEA SANTOS, Yeshiva University — Quantum spin chains are prototype quantum many-body systems. They are employed in the description of various complex physical phenomena. Here we provide an introduction to the subject by focusing on the time evolution of Heisenberg spin-1/2 chains with couplings between nearest-neighbor sites only. We study how the anisotropy parameter and the symmetries of the model affect its time evolution. Our predictions are based on the analysis of the eigenvalues and eigenstates of the system and then confirmed with actual numerical results.

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