

Quantum Ising Criticality in Dimerized XY Spin-1/2 Chain

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Abstract: In the present paper we propose a spin-1/2 chain which provides an exactly solvable example to study the Ising criticality with the central charge $c=1/2$. We perform the diagonalization of this model in the presence of magnetic field. From the full energy spectrum, the central charge and the scaling dimensions are given at the critical point. The results show evidently that the quantum Ising criticality exists in such a system.

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Key words: quantized spin models, Ising criticality

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