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Topological Quantum Phase Transition in One-dimensional Spin Chain HONG-CHEN JIANG, JIA-DONG ZANG, ZHENG-YU WENG, SHOU-CHENG ZHANG — We construct a Hamiltonian between AKLT and SZH model for one-dimensional S = 2 spin chain, where a variable parameter α is introduced. The edge spin is boson-like for AKLT model ($\alpha = 0$), while fermion-like for SZH model($\alpha = 1$). Due to this distinction, topological quantum phase transition is predicted, and is addressed by large-scale DMRG calculation.

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