BIPARTITE AND TRIPARTITE ENTANGLEMENT IN 2D SPIN-$\frac{1}{2}$ HEISENBERG ANTIFERROMAGNETS

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Quantum entanglement was lately investigated mainly in the context of quantum information processing. Recently, however, the quantum entangled quantum states are being recognized to play an important role in many quantum phenomena (BCS, Hall effect, quantum phase transitions) and were used in the description of many-body strongly correlated systems. Here, we consider bipartite and tripartite entanglement present in the ground state ($S = 0$) of Heisenberg spin-half antiferromagnets attached to some 2D Archimedean lattices. Additionally we discuss a relation of the von Neumann entropy (which is a measure of entanglement) to the ground state degeneracy.

9.7 cm

13.4 cm

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