

Variational tensor network study of the maple-leaf Heisenberg antiferromagnet

We investigate the spin-1/2 Heisenberg antiferromagnet on the ruby and maple-leaf lattices, identifying a phase transition from a gapless paramagnetic or quantum spin liquid phase on the ruby lattice to a gapped counterpart on the maple-leaf lattice. This study leverages extensive infinite variational tensor network calculations to provide new insights into the competition between ordered and paramagnetic phases in these frustrated systems.

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