

# Quests for fractionalized excitations in frustrated quantum magnets

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An unambiguous realization of quantum spin liquid (QSL), characterized by fractionalized excitations, non-local quantum entanglement and emergent Gauge symmetry in the ground state, has yet to be achieved in frustrated and topological quantum magnets, often due to preemptive long-range magnetic order or spin freezing at finite temperature. In this talk, I will present some examples from our recent polarized and inelastic neutron scattering studies of magnetic order and excitations in several QSL candidate materials with frustrated pyrochlore, honeycomb and triangular lattices. Our central aim is to search for possible experimental signatures of fractionalized excitations at finite temperature.

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