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【731】Neutron Scattering Study of Field-Induced Dynamics in the Quantum Spin Liquid Candidate YbBr3

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Quantum spin-liquids (QSLs) are novel phases of quantum matter defined by a highly-fluctuating and massively entangled ground state as T -> 0 K. A candidate QSL material is YbBr3, an effective spin-1/2 2D honeycomb system.

Inelastic neutron scattering experiments on this material reveal a broad continuum of scattering associated with strong quantum fluctuations of the magnetic system, which suggests that YbBr3 is only short-range correlated down to at least T = 100 mK.

Our recent investigations of the magnetic correlations of YbBr3 at CAMEA and TASP at PSI, aim to quantitatively describe the dynamical spin correlations in the material under the application of an external magnetic field.

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