

# Waves in a field-frozen anisotropic quantum spin liquid

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## Abstract

NDMAP is the first Haldane-gap antiferromagnet where a field-induced Bose condensation of magnons and quantum phase transition to a magnetically ordered state was directly observed in neutron diffraction experiments. Inelastic neutron studies provide unique insight on the exotic spin dynamics of the high-field magnetized state. At high fields the spectrum is dominated by a triplet of long-lived breather excitations with field-dependent masses. A number of existing theoretical approaches qualitatively reproduce the main features of the experimentally observed behavior. However, only a newly proposed Ginsburg-Landau type model can consistently account for the bulk of existing neutron scattering and ESR data at the quantitative level.