Spin-wave Calculation for Antiferromagnetic Heisenberg Model on a Triangular Lattice

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We studied spin wave for antiferromagnetic Heisenberg model. The model structure is $YMnO_3$ whose spin constructs triangular lattice. The model Hamiltonian includes easy-plane anisotropy and in-plane eaxy-axis anisotropy as well as spin-spin inter-plane interactions. To calculate the spin-spin interaction, we used Holstein-Primakoff method. The results showed the spin wave result at $YMnO_3$

keywords : spin wave, Holstein-Primakoff, Heisenberg model