

Abstract Submitted
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User-friendly software for modeling collective spin wave excitations¹ STEVEN HAHN, PETER PETERSON, RANDY FISHMAN, GEORG EHLERS, Oak Ridge National Laboratory — There exists a great need for user-friendly, integrated software that assists in the scientific analysis of collective spin wave excitations measured with inelastic neutron scattering. SpinWaveGenie is a C++ software library that simplifies the modeling of collective spin wave excitations, allowing scientists to analyze neutron scattering data with sophisticated models fast and efficiently. Furthermore, one can calculate the four-dimensional scattering function $S(Q,E)$ to directly compare and fit calculations to experimental measurements. Its generality has been both enhanced and verified through successful modeling of a wide array of magnetic materials. Recently, we have spent considerable effort transforming SpinWaveGenie from an early prototype to a high quality free open source software package for the scientific community.

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