



Contribution ID: 5

Type: **Keynote**

HIGH-PRECISION CALCULATION OF (NEUTRON) SCATTERING WITH THE DENSITY-MATRIX RENORMALIZATION GROUP

Friday 7 June 2019 10:30 (1 hour)

In recent years, the density-matrix renormalization group (DMRG) method, by now the leading method for one-dimensional strongly correlated quantum systems, has been extended to the simulation of time-dependent phenomena at finite-temperature and is therefore now ideally placed to calculate momentum- and frequency-dependent scattering off magnets. In this talk, I will introduce to the method, its relation to the theory of entanglement, the important post-processing of data, and show how it produces results in excellent agreement with various experimental results (for instance, RbCoCl_3) and allows the detailed study of magnetic properties of materials.

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Session Classification: Numerical simulations of quantum spin systems

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