



Contribution ID: 142

Type: **Talk**

【708】 Study of new strong-leg spin ladder with neutron scattering

Wednesday 6 September 2023 16:00 (15 minutes)

Quantum simulators are experimentally available materials, which satisfy well-defined quantum Hamiltonians and allow the quantitative prediction of spectacular many-body effects. An example of such materials are ideal spin ladders. So far, only one strong-leg spin ladder was studied. We recently managed, thanks to a breakthrough, to grow a second strong-leg spin ladder in large crystals, and deuterate them –making a study with neutron spectroscopy achievable. Here, we present our neutron spectroscopy measurements where both time of flight and multiplexing instruments were used. We determined the excitation spectrum from which the dispersion and Hamiltonian parameters were extracted. Finally, we will discuss future work to tune this material using uniaxial pressure.

Theoretical Work

Author: PHILIPPE, Jonas (PSI)

Co-authors: MAZZONE, Daniel; SIMUTIS, Gediminas; JANOSCHEK, Marc

Presenter: PHILIPPE, Jonas (PSI)

Session Classification: Neutron Science

Track Classification: Neutron Science