



Contribution ID: 12

Type: Oral

Inelastic Neutron Scattering Study of $K_3[Mn(CN)_6]$ in an applied field

A polycrystalline sample of the Mn(III) complex $K_3[Mn(CN)_6]$ was measured on the cold neutron time-of-flight spectrometer Pelican at ACNS in October 2020, under a range of applied magnetic fields of 0 – 7 T. The spectra obtained in zero-field clearly show a pair of magnetic excitations centered at ca. 9.5 meV, in accord with previous measurements on IN4 at ILL and MARS at PSI. In externally applied magnetic fields, these excitations were found to be significantly modified, consistent with a Zeeman split pair of spin doublets that move apart as a function of field. This behaviour is believed to be the result of crystal field and Jahn-teller distortions of the octahedral Mn centre.

Presenter Gender

Man

Do you wish to take part in the Student Poster Slam

Condition of submission

Yes

Students Only - Are you interested in AINSE student funding

Level of Expertise

Expert

Pronouns

He/Him

Which facility did you use for your research

Australian Centre for Neutron Scattering

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Session Classification: Chemistry, Soft Matter & Crystallography

Track Classification: Chemistry, Soft Matter & Crystallography