

Magnetism and Magnetic Materials Studied Using the Pelican Time-of-Flight Spectrometer

Monday, 2 December 2019 18:31 (1 minute)

The study of magnetic materials using inelastic neutron scattering (INS) has a long history, dating back to some of the first INS experiments. The Pelican spectrometer is well suited to magnetic studies as the high flux, low background and non-magnetic construction provide ideal conditions for such experiments. Further the instrument is designed for polarisation analysis, a key technique in advanced magnetic characterisation studies. As part of the Pelican user programme, a diverse selection of magnetic properties and materials has been investigated. These include but are not limited to low dimensional quantum magnetism [1], excitations in lanthanoid single molecule magnets [2], frustrated magnetism [3]. In this contribution we will give an overview of some of these successful experiments and showcase future capabilities with the addition of a 7T magnet to the Pelican sample environment suite.

1. M. Fujihala, T. Sugimoto, T. Tohyama, S. Mitsuda, R. A. Mole, D. H. Yu, S. Yano, Y. Inagaki, H. Morodomi, T. Kawae, H. Sagayama, R. Kumai, Y. Murakami, K. Tomiyasu, A. Matsuo, and K. Kindo Phys. Rev. Lett. 120 077201 (2018)
2. M. Vonci, M.J. Giansiracusa, W. Van den Heuvel, R.W. Gable, B. Moubaraki, K.S. Murray, D. Yu, R.A. Mole, A. Soncini and C. Boskovic Inorg. Chem. 56 378 (2017)
3. T. Haku, K. Kimura, Y. Matsumoto, M. Soda, M. Sera, D. Yu, R. A. Mole, T. Takeuchi, S. Nakatsuji, Y. Kono, T. Sakakibara, L.-J. Chang, and T. Masuda Phys. Rev. B 93 220407(R) (2016)

Level of Expertise

Experienced Researcher

Do you wish to take part in the poster slam

No

Travel Funding

Speakers Gender

Male

Primary authors: MOLE, Richard (ANSTO); YU, Dehong (Australian Nuclear Science and Technology Organisation)

Presenter: MOLE, Richard (ANSTO)

Session Classification: Welcome Function

Track Classification: Spectroscopy