

Oral Contributions

[MS35- 02] Exploration of novel field-induced phases via neutron diffraction at high magnetic fields

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Neutron diffraction is the best established technique to study in details magnetic structures of materials. By disturbing the ground state of complex magnetic systems through the application of magnetic fields, new physical insights are often revealed. For the past few years, a dedicated magnetic powder and single crystal diffractometer with high resolution and high flux at long d-spacings has been in operation at the ISIS pulsed neutron facility in the UK in combination with a state of the art 14T magnet. The characteristics of the neutron beamline and the magnet will be very briefly outlined before some recent examples in the field of multiferroics (in particular the existence of field induced ferroelectricity in α -NaFeO₂) and quantum phase transitions (long range order in the spinsinglet 4f heavy electron system YbC₃Al₃) will be presented.