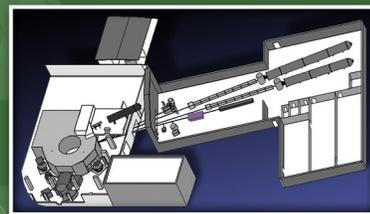


HIGH FLUX ISOTOPE REACTOR

INSTRUMENT

BEAM LINE

CG-4C



US/JAPAN COLD NEUTRON TRIPLE-AXIS SPECTROMETER

The US/Japan Cold Neutron Triple-Axis Spectrometer is a conventional triple-axis spectrometer with variable incident energy and variable sample-analyzer distance. The cold guide 4 bender and guide hall shielding reduce background levels at CG-4C, and the 15 cm tall guide profile is well exploited by CG-4C's vertically focusing



monochromator PG (002). To enhance accommodation of strong magnetic fields at the sample position and to simplify future polarization analysis, the amount of ferromagnetic material has been minimized in the construction of this instrument.

CG-4C is a collaboration of the Neutron Sciences Directorate at Oak Ridge National Laboratory and the

Neutron Science Laboratory, Institute for Solid State Physics, at the University of Tokyo, as part of the US-Japan Cooperative Program on Neutron Scattering..

APPLICATIONS

- High-resolution measurements of low-energy spin and lattice dynamics of crystalline solids with high signal-to-noise
- Study of the magnetic phenomena exploiting the energy range that matches achievable applied magnetic fields

SPECIFICATIONS

Incident energy range PG (002)	2–20 meV
Final energy range PG (002)	≥3.0 meV
Monochromators	Variable vertical focusing PG (002)
Analyzer	≥3.0 meV [fixed vertically and variable horizontally focusing PG (002)]
Sample scattering angles	-15° ≤ 2θs ≤ 115°, with additional restrictions depending on Ei
Analyzer angle	<103°
Collimations	Pre-analyzer: 20', 40', 80'; Pre-detector: 80', 120', 240'
Detector	Single He ³ detector
Resolution	Best elastic energy resolution ~0.1 meV

Status: Available to users

FOR MORE INFORMATION, CONTACT

Instrument Scientist: Tao Hong, hongt@ornl.gov, 865.574.8659

Instrument Scientist: Jaime Fernandez-Baca, fernandezbja@ornl.gov, 865.576.8659

Instrument Scientist: Travis Williams, williamstj@ornl.gov, 865.576.061

neutrons.ornl.gov/cg4c

