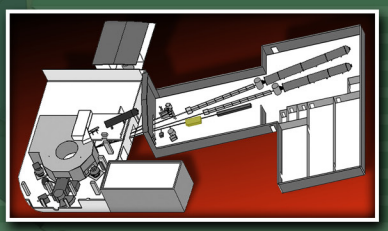
Instrument Fact Sheet

BEAM LINE

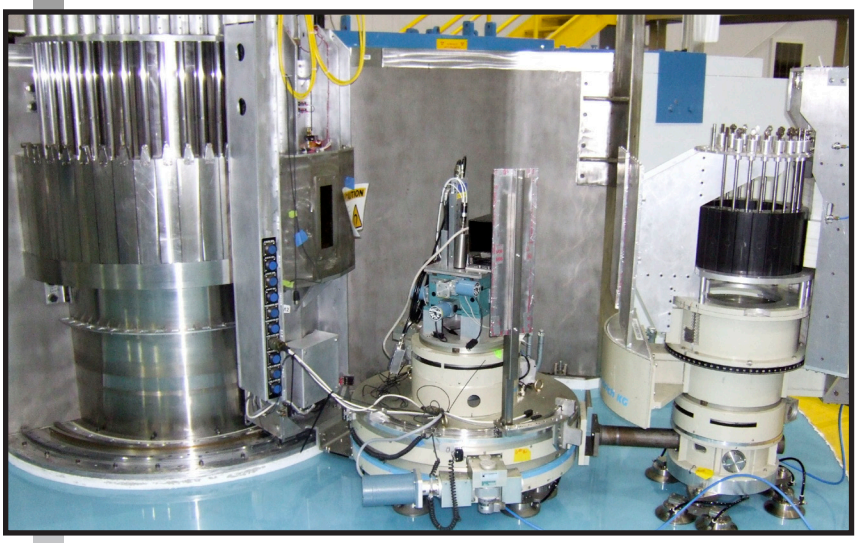
CG-4C

HIGH FLUX ISOTOPE REACTOR



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 monochromator-sample and sample-analyzer distances. 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 Scattering Science Division at Oak Ridge National Laboratory, the Neutron Scattering Group at Brookhaven National Laboratory, and the Neutron Science Laboratory, Institute for Solid State Physics, at the University of Tokyo.

Applications

- Investigations of the low-energy, atomic-scale dynamics of crystalline solids
- High-resolution measurement of low-energy excitations with high signal-to-noise ratios due to low background

Specifications

Incident energy range PG (002)	2–20 meV
Final energy range PG (002)	>2.8 meV
Monochro-mators	Variable vertical focusing PG (002)
Analyzer	>3.0 meV [fixed vertical focusing PG (002)]
Sample scattering angles	-15° ≤ 2Θs ≤ 115°, with additional restrictions depending on Ei
Analyzer angle	<110°
Collimations	Pre sample: 10', 20', 40', 80'; 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
Collaborator: Steve Shapiro, shapiro@bnl.gov, 631.344.3822
Collaborator: Hideki Yoshizawa, yoshi@issp.u-tokyo.ac.jp

neutrons.ornl.gov/cg4c

HFIR

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