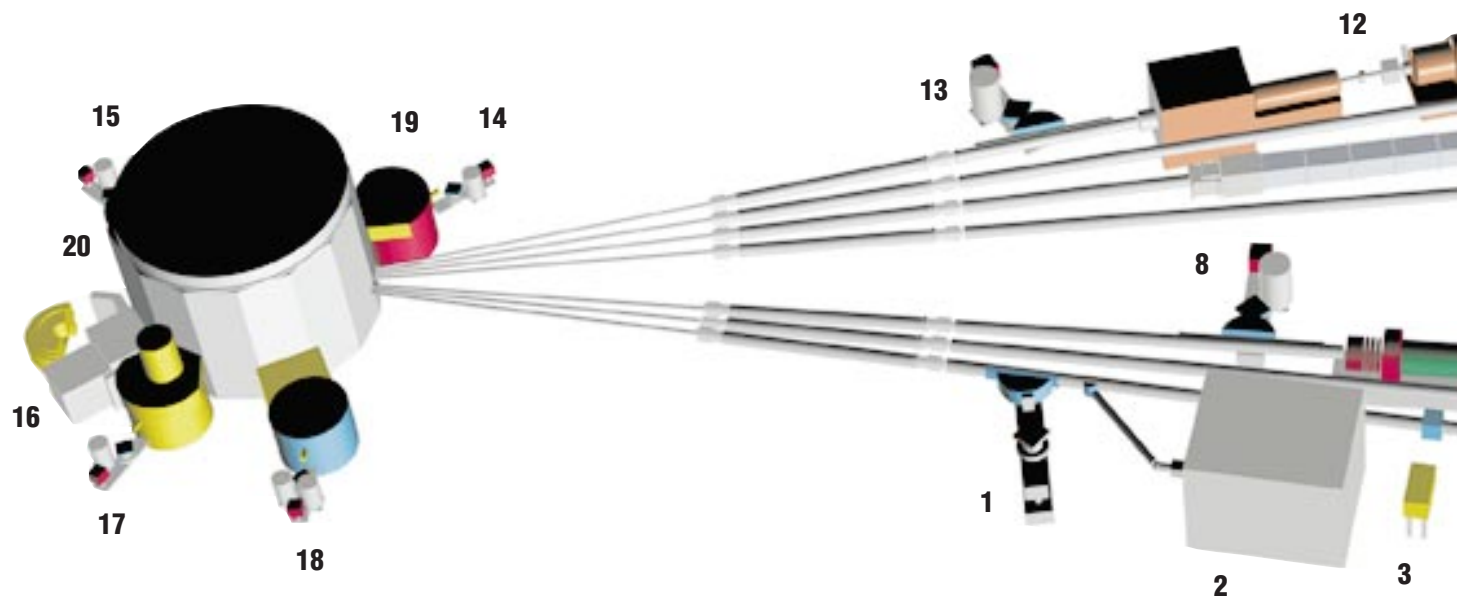


# NIST CENTER FOR NEUTRON RESEARCH LAYOUT



## 1 Horizontal Sample Reflectometer

Horizontal surface of sample allows reflectivity measurements of free surfaces, liquid vapor interfaces, as well as polymer coatings.

## 2 Neutron Interferometry and Optics Station

Includes perfect silicon interferometer; vibration isolation system provides exceptional phase stability and fringe visibility.

## 3 Prompt Gamma Activation Analysis

Cold neutron fluxes allow detection limit for H of 1-10 micrograms. Focused beams available for profiling.

## 4 NG-7 30m SANS

Small Angle Neutron Scattering instrument for microstructure measurement sponsored by NIST, the Exxon Research and Engineering Co., the University of Minnesota, and Texaco R&D.

## 5 Neutron Physics Station

A cold neutron beam 150 x 60 mm<sup>2</sup>, available for fundamental neutron physics experiments.

## 6 Fermi Chopper TOF Spectrometer

A hybrid time-of-flight spectrometer for inelastic scattering, with wavelengths between 0.23 nm and 0.61 nm. The wavelength is chosen by focusing pyrolytic graphite crystals, while the beam is pulsed by a simple Fermi chopper.

## 7 Spin Echo Spectrometer

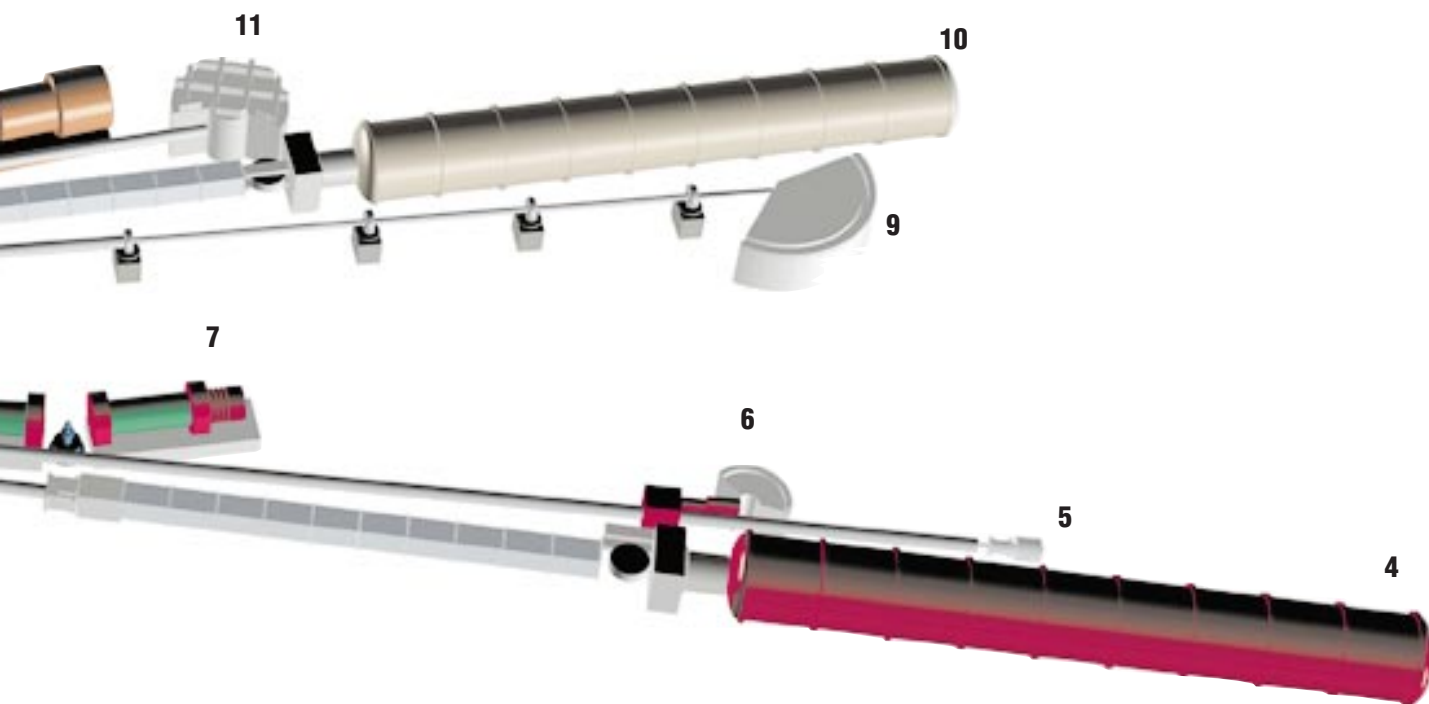
A neutron spin echo spectrometer offering neV energy resolution, based upon Julich design, sponsored by NIST, Julich and Exxon.

## 8 SPINS Spectrometer

Spin Polarized Inelastic Scattering, a cold neutron triple axis spectrometer with spin polarization capabilities for high resolution studies, and position sensitive detector capability, sponsored by the National Science Foundation and NIST; part of Center for High Resolution Neutron Scattering (CHRNS).

## 9 Disc Chopper TOF Spectrometer

Versatile time-of-flight spectrometer, with beam pulsing and monochromatization effected by 7 disk choppers. Used for studies of dynamics in condensed matter, including macromolecular systems.



**10 NG-3 30m SANS**

Instrument for microstructure measurement sponsored by the National Science Foundation and NIST; part of CHRNS.

**11 Back Scattering Spectrometer**

High intensity, very high resolution back scattering spectrometer, with many innovative features, and energy resolution of approximately 1  $\mu$ eV.

**12 8M SANS**

Instrument for polymer characterization, sponsored by Polymers Division.

**13 Vertical Sample Reflectometer**

Instrument for measuring subsurface structure with polarization analysis capability. Capable of measuring reflectivities down to  $10^{-8}$ .

**14 BT-8 Residual Stress Diffractometer**

Diffractometer optimized for depth profiling of residual stress in large components.

**15 BT-9 Triple Axis Spectrometer**

Triple axis crystal spectrometer for measurements of excitations and structure.

**16 BT-1 Powder Diffractometer**

Powder diffractometer with 32 detectors; incident wavelengths of 0.208, 0.154, and 0.159 nm, with highest resolution of  $\delta d/d = 8 \times 10^{-4}$ .

**17 BT-2 Triple Axis Spectrometer**

Triple axis crystal spectrometer with polarized beam capability for measurement of magnetic dynamics and structure.

**18 BT-4 Filter Spectrometer**

A triple axis crystal spectrometer with a Be or Be/Graphite filter analyzer option for chemical spectroscopy.

**19 Cold Neutron Depth Profiling**

A station for quantitative profiling of subsurface impurities and coatings, based on neutron capture and emission of a charged particle.

**20 Thermal Column**

A very well-thermalized beam of neutrons used for radiography, tomography, dosimetry, and other experiments.