

NRC-CNRC

INFORMATION

Neutron Program for Materials Research

The Centre of Neutron Scattering in Canada

National Facility

User Program

Industry Support

Applied Research

Fundamental Science

Introduction

The Neutron Program for Materials Research (NPMR) provides access to Canada's primary neutron scattering facility located at Chalk River Laboratories. Canada has an outstanding tradition in neutron scattering that began with the Nobel prize winning research of Dr. B.N. Brockhouse. Today, this national facility provides Canadian and foreign researchers in universities, national laboratories and industry access to the myriad of neutron scattering techniques that reveal so much about the materials properties and help scientists and engineers develop and improve materials. Applied neutron diffraction

is also available as a service to Canadian and foreign industry to improve the quality and safety of engineering materials and components. The six neutron spectrometers at the NRU reactor are operated in support of the two principal functions of the NPMR:

National User Facility

Beam time is available to all researchers who need to use neutron scattering techniques. The research is often carried out through collaborations between NPMR scientific staff and university, industrial and government scientists. Research programs are classified into three broad categories, Materials Science, Physical Sciences, and Biomaterials.

Materials Science

Neutron diffraction is a uniquely versatile probe for the study of material response to temperature, load and a wide range of thermomechanical treatments. Because many experiments can be performed on specimens that are held in realistic conditions (high temperature, reactive environments, applied stresses), the measured information provides direct insight



Figure 1: *DUALSPEC*, these state-of-the-art neutron scattering instruments were partly funded by NSERC.



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