

W0186

Upgraded Neutron Diffractometers at HFIR. B.C. Chakoumakos, J.A. Fernandez-Baca, Y. Ishii¹, S.A. Moore, G.B. Taylor, R.G. Maples, D.W. Valentine, J.L. Robertson, Center for Neutron Scattering, Oak Ridge National Laboratory*, Oak Ridge TN 37831, USA, ¹Japan Atomic Energy Research Institute, Tokai, Japan.

A suite of instruments for doing neutron crystallography is being upgraded at the High Flux Isotope Reactor. These include a flat-cone geometry PSD high intensity diffractometer (aka, WAND), a conventional four-circle diffractometer with a 7-anode serial detector, and a 44-detector medium resolution-high intensity powder diffractometer. The WAND is being commissioned, and can enable time-resolved powder diffraction studies (data collection times of a few seconds are possible), as well as diffuse scattering studies of single-crystals. The 4-circle diffractometers, which will be commissioned in the Fall of 2005, has a new vertically focused Si monochromator and will allow crystallographic studies on small unit cell crystals bigger than 1 mm³ in size. The powder diffractometers will be commissioned in the Spring of 2006, and will feature a 90 monochromator take-off angle, a multi-wafer vertically focused Ge monochromator, and 44 detectors with removable collimation to give both a high resolution and a low resolution operating mode; the latter being suitable for PDF studies.

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