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Facility Overview and Double-Focusing Thermal Triple-Axis Spectrometer at the NCNR

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We will briefly overview the neutron scattering instrumentation at the NCNR, but will focus the talk on the capabilities of the new thermal triple-axis spectrometer is located at the BT-7 beam port [1]. This spectrometer takes full advantage of the large 165 mm diameter reactor beam to tailor the dual 20×20 cm^2 double-focusing monochromator system to provide monochromatic fluxes exceeding 10^8 n/cm^2/s onto the sample. The two monochromators installed are PG(002) and Cu(220), which provide incident energies for 5 meV to above 500 meV. The computer controlled analyzer system offers six standard modes of operation, including a diffraction detector, a position-sensitive detector (PSD) in diffraction mode, horizontal energy focusing analyzer with detector, a **Q**-E mode employing a flat analyzer and PSD, a constant-E mode with the analyzer crystal system and PSD, and a conventional mode with a selection of Söller collimators and detector. Additional configurations for specific measurement needs are also available. The capabilities and performance will be discussed and examples of published data presented.

[1] J. W. Lynn, Y. Chen, S. Chang, Y. Zhao, S. Chi, W. Ratcliff, II, B. G. Ueland, and R. W. Erwin, J. Research NIST 117 (in press).