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"He who Scatters has Much": Neutron Powder Diffraction Facilities at the NRC, Chalk River, Canada.

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Neutron powder diffraction can be a powerful analytical method in understanding the crystalline properties of materials under ambient and a wide variety of challenging nonambient conditions and environments. Large volumes of material can be used, allowing confidence that a representative amount of sample is being used (greater than half to several cubic centimeters). Neutrons are sensitive to light elements such as oxygen and including hydrogen / deuterium. Structural changes that show little effect with X-ray diffraction methods can show major changes with neutron diffraction.

The C2 neutron powder diffractometer, located at the NRC Chalk River Laboratories (a two hour drive from Ottawa) has a reputation of being a friendly and effective Canadian and international user facility. Academics can obtain free access for work destined to be published in the open literature, and a fee for service mechanism is available for commercial users. This poster will show existing capabilities and ancilliary stages, as well as future initiatives and intended improvements.