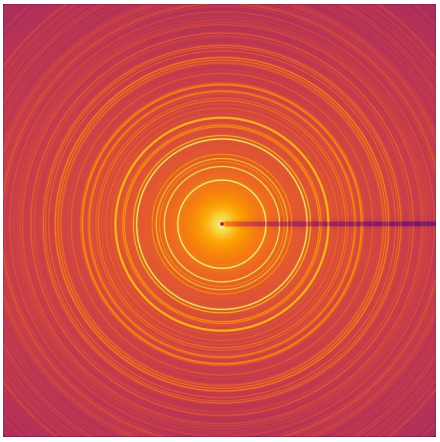
Reinventing the Role of Synchrotron Powder Diffraction

B. Hinrichsen[1], M. W. Terban[1] and J. Drnec[2]

[1]*Momentum Transfer, A Chemovator Venture, Mannheim, Germany*

[2]*ESRF, Grenoble, France*



bernd.hinrichsen@momentum-transfer.com

Figure 1. A two dimensional powder diffraction pattern of Rutile.

What would our research look like if everyone had fast access to high quality synchrotron powder diffraction data? How does materials research change when we can measure thousands of samples in the matter of hours? Does more, *does better* data really make a difference? How does this change our approach to data analysis?

Momentum Transfer has been formed around the ideal of bringing *equality* into the field of materials research. It aims to do so by rethinking the access mode synchrotron data. This has been made possible by the development of a high throughput sample holder and a high capacity data pipeline for data processing. The engineering kicked off by BASF and ESRF within their STREAMLINE project resulted in an incredibly productive measurement machine. The high energy and high flux of the EBS allows total scattering, XRD and SAXS measurements in a second scale time regime. It is the quality paired with capacity that has laid the foundation of Momentum Transfer. With a bi-weekly measurement schedule this service is accessible to all researchers outside of the usual user program.

During the talk the concepts of Momentum Transfer's approach to data accessibility, dissemination and analysis will be presented. The benefits for academia of this strong industrial collaboration with a large research infrastructure will be highlighted.

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