

BRAGG2D: Rapid assessment of XRPD sample preparation

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A common challenge encountered during powder X-ray diffraction experiments is ensuring the specimen consists of randomly oriented crystallites with appropriate dimensions. Two dimensional X-ray diffraction is a convenient way to visualize deviations from this ideal powder condition. In 2D data collection, diffracted intensity is collected as a function of 2θ and tilt with line uniformity at constant 2θ closely associated with the sample microstructure. BRAGG2D is a new technique utilizing the parafocusing beam geometry with a two dimensional data processing algorithm allowing illumination of a large specimen area with the full X-ray beam resulting in rapid assessment of sample preparation.