

## Optimizing Data Collection with the Latest Generation In-House X-Ray Sources

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The performance of home-lab x-ray systems has increased substantially in the last decade. More highly focused, divergent beams, active pixel array detectors and kappa goniometers allow data to be obtained on more challenging samples. However, as the system characteristics have been improved for biological samples, it has become important to optimize the data collection parameters in order to obtain the best results. While the increased beam intensity does help to reduce exposure times and extend resolution, utilizing multi-axis goniometers and large-format shutterless CMOS detectors also reduces wall time and provides ways to improve data. Determining the best collection strategy and beam divergence to minimize radiation damage and improve reflection profiles can greatly improve the data quality. Examples of data collection strategies and results will be discussed.