

Automated Sample Screening and Data Collection Using Bruno. Matthew M. Benning, Joerg Kaercher, Robert Lancaster, Steven Leo, Frank Jin, Bruker AXS Inc., 5465 East Cheryl Parkway, Madison WI, 53711.

Home labs as well as beamlines are looking to implement robotics as a means to optimize data collection efficiency. As part of our Proteum suite, we have developed software methods to automate all aspects data collection, which is crucial for the success of these systems. For crystal screening, samples can be scored and ranked based on several factors: unit cell refinement, mosaicity, diffraction limit and presence of ice rings. If data collection is the goal, users can configure Proteum to proceed with all samples that meet specific criteria or that are the best of a group. Proteum then determines the optimal collection strategy based on the diffraction limit for a given exposure time. The system layout and examples of crystal scoring will be presented.