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X-ray Photon Correlation Spectroscopy (XPCS) at DESY

Efficient data management and analysis are essential for large-scale experiments at synchrotron facilities. At P10, DESY, the SciCat platform has been implemented to provide a FAIR (Findable, Accessible, Interoperable, Reusable) data management solution for SAXS/XPCS experiments. The successful installation of the SciCat ingestor and a test instance marks significant progress, with plans to integrate metadata ingestion, implement a comprehensive metadata schema, and deploy SciCat.

In parallel, the Xana 2.0 software development aims to modernize XPCS data analysis by introducing Python-based modules for standardized file formats like HDF5 and NeXus. This upgrade addresses the limitations of Xana 1.0, which relies on outdated libraries, by supporting robust metadata handling and parallelized I/O for large datasets. Together, SciCat and Xana 2.0 enhance data accessibility, management, and analysis, ensuring that P10 DESY remains at the forefront of experimental research while adhering to FAIR data principles.

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