

FAIR Data of Physical and Digital Beamlines

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Simulations play a crucial role in instrument design as a digital precursor of a real-world object. To preserve the symbiosis of simulated and real-world instrument beyond commissioning we connect the two worlds at the NeXus file level. The instrument section of the produced NeXus file is enriched with detailed simulation parameters where the current state of the instrument is reflected. As a result, the enriched instrument description increases the reusability of experimental data in sense of the FAIR principles. The data is ready to be exploited by machine-learning techniques, such as for predictive maintenance applications, as it is possible to perform simulations of a measurement directly from the NeXus file.

Type

Talk

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