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Integration of HKL single crystal computations into EPICS using PyDevice

Thursday 29 August 2024 16:00 (2 hours)

In this work, we integrate and extend an HKL computation package *into EPICS through a PyDevice*** IOC. This provides EPICS users a generalized approach to mapping real motor rotation space to HKL reflections for a wide range of diffractometers (4-circle, 6-circle, kappa geometries). Utilizing PyDevice for EPICS IOC development allows us to bind core calculations written in C to Python, simultaneously taking advantage of the efficiency of C and readability of Python. The EPICS IOC provides an interface between beamline hardware and users through an intuitive Phoebus CSS GUI, Extensions are being developed to the original HKL package to handle inelastic scattering in addition to the original elastic scattering case for neutron and X-ray diffraction.

Footnotes

*https://repo.or.cz/hkl.git https://epics-controls.org/*** https://github.com/klemenv/PyDevice/

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