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Measurement of Orbit Coupling by the Apple-X Undulator Modules in the Soft X-ray Beamline Athos at SwissFEL

Wednesday, 24 August 2022 17:10 (20 minutes)

Orbit response measurements in the soft X-ray beamline of Athos have shown coupling of the beam transport between the transverse planes, which is influenced by the on-axis field strength of the Apple-X undulator modules. A model reproduces this observation if a coupling term is included in the transport matrix of the undulator module. The presentation shows the estimate of the coupling strength as a function of beam energy, undulator field strength and orbit excitation.

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Primary authors: REICHE, Sven (Paul Scherrer Institut); CALVI, Marco (Paul Scherrer Institut); GANTER, Romain (Paul Scherrer Institut); FERRARI, Eugenio (Deutsches Elektronen-Synchrotron)

Presenters: REICHE, Sven (Paul Scherrer Institut); CALVI, Marco (Paul Scherrer Institut); GANTER, Romain (Paul Scherrer Institut); FERRARI, Eugenio (Deutsches Elektronen-Synchrotron)

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