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

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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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