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Spectrum-based alignment of SIRIUS undulators

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Recently, two SIRIUS beamlines, EMA and PAINEIRA, received their definitive insertion devices (IDs). Both IDs are in-vacuum devices (IVUs), the first of this kind at SIRIUS. Due to the proximity of the IVU cassettes to the electron beam, the spectrum emitted by these devices is highly sensitive to misalignments of the ID magnetic center. Such misalignments can result in photon flux losses, spectral shifts toward lower energies, and broadening of the resonance. This work presents the application of O. Chubar's* spectrum-based alignment method to one of the new SIRIUS IVUs, aiming to optimize its performance at the beamline.

Footnotes

- Chubar, O. et al. (2018) 'Spectrum-Based Alignment of In-Vacuum Undulators in a Low-Emittance Storage Ring', Synchrotron Radiation News, 31(3), pp. 4–8. doi: 10.1080/08940886.2018.1460173.

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