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Progress on the 5BA lattice studies for ALBA-II

Wednesday 4 June 2025 16:00 (2 hours)

ALBA-II is progressing in the definition of an upgrade lattice that meets the requirements of the beamlines and perform well in terms of dynamics aperture and lifetime. The last changes were focused on further decreasing both the emittance (200 pm*rad) and the beta functions at the straight sections (around 2 m) for the improvement of the beamlines performances. The efforts to guarantee a good performance of such a lattice have been focused on the improvement of a horizontal dynamic aperture larger than 6 mm (needed for off-axis injection) and of a lifetime around 10 hours. Octupole magnets next to each sextupole have been introduced to correct the large tune shift with amplitude that is limiting the dynamic aperture. Simulations of the lattice commissioning and robustness with magnet, alignment and instrumentation errors are being carried out. The efficiency of the off-axis injection process including both lattice and pulsed elements errors is also under evaluation.

Footnotes

Paper preparation format

LaTeX

Region represented

Europe

Funding Agency

Author: BENEDETTI, Gabriele (ALBA Synchrotron (Spain))

Co-authors: CARLÀ, Michele (ALBA Synchrotron (Spain)); BLANCO-GARCÍA, Oscar (ALBA Synchrotron (Spain)); GÜNZEL, Thomas (ALBA Synchrotron (Spain)); MARTÍ, Zeus (ALBA Synchrotron (Spain))

Presenter: GÜNZEL, Thomas (ALBA Synchrotron (Spain))

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