



Contribution ID: 147 Contribution code: WEP62

Type: Poster Presentation

The girder system prototype for the ALBA II storage ring

Wednesday 17 September 2025 17:00 (1 hour)

ALBA Synchrotron is developing an upgrade project for transforming its accelerator into a diffraction limited storage ring, with twenty-fold reduction of the emittance. The upgrade will be executed before the end of the decade, profiting at maximum all existing infrastructures, as the tunnel, and renewing SR elements such as magnets, vacuum chambers and girders. This paper presents the design status of the new girder system required for supporting the new magnets array of the Alba II lattice, which more than doubles in quantity. Design requirements include positioning accuracy between adjacent magnets of 50 μm , to enable repositioning the magnets due to long term deformation of the slab, ensuring the vibrational stability of the components on top and modular construction to minimize the installation time, dividing each of the 16 arcs into modules with all the subsystems preassembled, providing easiness in the assembly, transportation and final installation. A dedicated project was awarded to build prototypes for ALBA II machine. Two girder prototypes are currently being constructed in order to check their full functionality and are expected to be tested by the end of this year.

Footnotes

Funding Agency

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Session Classification: Wednesday Poster Session

Track Classification: ACCELERATORS: Storage Rings