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Type: **Poster Presentation**

Fast-ramping alpha magnet for interleaved operation at ANL APS

Monday, 20 May 2024 16:00 (2 hours)

RadiaBeam is designing and manufacturing a fast-ramping alpha magnet is developed for interleaved operation at the Argonne Advanced Photon Source (APS). This interleaving operation requires the alpha magnet to stably complete a 5 s long cycle with a 100 ms ramp-up, 1000 ms nominal field output and a 100 ms ramp-down. A laminated yoke is used to minimize eddy currents, ensure fast field response times and reduce core-loss during operation. The magnetic and mechanical design demonstrating the performance of this 2.75 T/m maximum field gradient alpha magnet within a 10 cm x 14 cm good field region will be presented along with the current fabrication status.

Footnotes

Funding Agency

Paper preparation format

Word

Region represented

North America

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Session Classification: Monday Poster Session

Track Classification: MC5: Beam Dynamics and EM Fields: MC5.D09 Emittance manipulation, Bunch Compression and Cooling