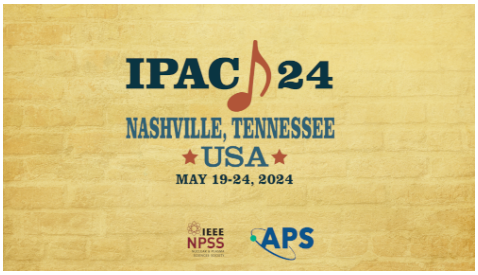

Contribution ID: **1410** Contribution code: **THPC08** Type: **Poster Presentation**

Beam-based alignment of magnetic system in AREAL linear accelerator

Thursday, 23 May 2024 16:00 (2 hours)

In this paper the beam-based alignment for solenoid and quadrupole magnets in the AREAL linear accelerator is presented. The AREAL accelerator, at this stage, operates with one solenoid, one quadrupole, corrector, and dipole magnets. The adjustment of solenoid and quadrupole magnets is crucial for the stable operation of the accelerator and for forming the desired beam required for the AREAL upgrade program. This work also takes into account the influence of the RF field radial component on the off-axis beam parameters and trajectory due to laser spot misalignment on the cathode. The study involves theoretical, simulation, and experimental comparisons.

Footnotes

Funding Agency

Paper preparation format

Word

Region represented

Europe

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Session Classification: Thursday Poster Session

Track Classification: MC5: Beam Dynamics and EM Fields: MC5.D01 Beam Optics Lattices, Correction Schemes, Transport