



Contribution ID: 1166 Contribution code: MOPC50

Type: **Poster Presentation**

Optimization of beam emittance under the influence of geomagnetic field

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

The injector section of the SHINE device is currently in the debugging phase. The electron beam energy in the injector section is low and is significantly affected by the geomagnetic field, with an intensity of approximately 250 milligauss. Through theoretical optimization, adjustments to the positions and intensity parameters of helical coils and corrector magnets are being made to significantly reduce the growth of beam emittance under the influence of the geomagnetic field. The aim is to optimize the beam quality of the injector section of the SHINE device based on this model.

Footnotes

Funding Agency

Paper preparation format

LaTeX

Region represented

Asia

Primary author: LIU, Zipeng (Shanghai Synchrotron Radiation Facility)

Co-authors: SHU, Guan (Institute of High Energy Physics); DENG, Haixiao (Shanghai Institute of Applied Physics); QIAN, Houjun (Deutsches Elektronen-Synchrotron DESY at Zeuthen); LI, Xudong (Shanghai Synchrotron Radiation Facility); JIANG, Zenggong (Shanghai Advanced Research Institute)

Presenter: LIU, Zipeng (Shanghai Synchrotron Radiation Facility)

Session Classification: Monday Poster Session

Track Classification: MC1: Colliders and other Particle and Nuclear and Physics Accelerators: MC1.A08 Linear Accelerators