Contribution ID: **1688** Contribution code: **THPS101** Type: **Poster Presentation**

Longitudinal phase space measurement using a corrugated structure at the PAL-XFEL

Thursday 5 June 2025 15:30 (2 hours)

We present the experimental results of the longitudinal phase space (LPS) measurement using a corrugated structure at Pohang Accelerator Laboratory X-ray Free-Electron Laser (PAL-XFEL). The electron beam, passing the corrugated structure, generates the wakefield, which streaks the beam horizontally. The dipole magnet following the corrugated structure disperses the streaked beam vertically. By analyzing the transverse distribution observed at the screen monitor after those components, the electron beam LPS can be characterized. The LPS after the FEL process can also provide the FEL temporal profile, which is the valuable information for the accelerator optimization as well as the user experiments. In this paper, we present the preliminary experimental results for the characterization of the electron beam LPS and FEL profile.

Footnotes

Paper preparation format

LaTeX

Region represented

Asia

Funding Agency

Author: SUNG, Chang-Kyu (Pohang Accelerator Laboratory)

Co-authors: SHIM, Chi Hyun (Pohang Accelerator Laboratory); YANG, Haeryong (Pohang Accelerator Laboratory); MOON, Kookjin (Pohang Accelerator Laboratory); CHO, MyungHoon (Pohang Accelerator Laboratory); KIM, Seongyeol (Pohang Accelerator Laboratory)

Presenter: CHO, MyungHoon (Pohang Accelerator Laboratory)

Session Classification: Thursday Poster Session

Track Classification: MC6: Beam Instrumentation and Controls,Feedback and Operational Aspects: MC6.T03 Beam Diagnostics and Instrumentation