



Contribution ID: 2596 Contribution code: TUPL122

Type: **Poster Presentation**

Study of beam evolution along the Fermilab 400 MeV linac

Tuesday, 9 May 2023 16:30 (2 hours)

Fermilab pre accelerator (Preacc) and Linac send H- beam at 15Hz to the Booster which is a resonant circuit synchrotron. The beam is accelerated from 35 keV to 750 keV with RFQ in the Preacc, and then accelerated to 400 MeV in the Linac. There are 17 cavities in the Preacc and Linac, however a few of the cavity phases are adjusted for a daily tuning. The phase and amplitude have not been optimized for many years. We revisited the beam emittance and RF parameters with beam measurements and compared with simulation from low energy beam transport (LEBT) in the Preacc to the 400 MeV beam transfer line between Linac and Booster. In this work we are going to discuss our study result and future plan.

Funding Agency

Footnotes

I have read and accept the Privacy Policy Statement

Yes

Primary author: SEIYA, Kiyomi (Fermi National Accelerator Laboratory)

Co-authors: SHARANKOVA, Ralitsa (Fermi National Accelerator Laboratory); JONES, Daniel (Fermi National Accelerator Laboratory); MWANIKI, Matilda (Fermi National Accelerator Laboratory)

Presenter: SEIYA, Kiyomi (Fermi National Accelerator Laboratory)

Session Classification: Tuesday Poster Session

Track Classification: MC2: Photon Sources and Electron Accelerators: MC2.A08: Linear Accelerators