

Contribution ID: 18

Type: Oral presention (by invitation only)

RF design of traveling-wave structures for the FCCee injector

Tuesday 31 May 2022 15:15 (15 minutes)

The linacs of the FCCee injector complex will both provide the drive beam for position production and accelerate nominal electron and positron beams up to 6 GeV. Several linacs comprise different traveling-wave structures fulfilling the beam dynamics and RF constraints. High-phase advance large-aperture structures accelerate the positron beam at low energies. All structures are rotationally symmetric for easier production. Long-range wakes are damped by HOM detuning. Operating mode and HOM parameters were calculated based on lookup tables and analytic formulas, allowing for rapidly scanning large parameter spaces. Here, we present both methodology and the current state of the RF design of the structures.

Primary author: POMMERENKE, Hermann Winrich (CERN)

Co-authors: GRUDIEV, Alexej (CERN); LATINA, Andrea (CERN); RAGUIN, Jean-Yves; SCHAER, Mat-

tia; CRAIEVICH, Paolo; BETTONI, Simona (Paul Scherrer Institut)

Presenter: POMMERENKE, Hermann Winrich (CERN)

Session Classification: FCC-ee injector

Track Classification: FCC-ee injector