IPAC'23 - 14th International Particle Accelerator Conference



Contribution ID: 1349 Contribution code: WEPL103

Type: Poster Presentation

# Potential and constraints of a beam-beam wire compensator in the HL-LHC era

Wednesday, 10 May 2023 16:30 (2 hours)

The compensation of the long-range beam-beam interactions by DC wires is currently being investigated as an option for enhancing machine performance in the framework of the High-Luminosity LHC Project. In this paper, we report and comment on the potential of wire compensation during the first HL-LHC run. The results are based on numerical simulations and optimisations of the machine dynamic aperture varying the wire position and current, taking into account the latest optics and beam scenarios and the constraints imposed by the corresponding settings of the HL-LHC collimation system.

## **Funding Agency**

### Footnotes

## I have read and accept the Privacy Policy Statement

Yes

#### Primary author: STERBINI, Guido (European Organization for Nuclear Research)

**Co-authors:** ROSSI, Adriana (European Organization for Nuclear Research); BERTARELLI, Alessandro (European Organization for Nuclear Research); POYET, Axel (European Organization for Nuclear Research); BE-LANGER, Philippe (University of British Columbia & TRIUMF); PAPAPHILIPPOU, Yannis (European Organization for Nuclear Research)

Presenter: STERBINI, Guido (European Organization for Nuclear Research)

Session Classification: Wednesday Poster Session

**Track Classification:** MC5: Beam Dynamics and EM Fields: MC5.D02: Non linear Single Particle Dynamics Resonances, Tracking, Higher Order, Dynamic Aperture, Code Deve