



Contribution ID: 113

Type: **not specified**

Study Status on CEPC MDI IR Design

Wednesday 17 March 2021 06:00 (15 minutes)

The Circular Electron Positron Collider (CEPC) has been proposed for Higgs factory in the next few decades. To achieve the required performance precision, it is critical to optimize the design of the Machine-Detector-Interface(MDI), as well as the Interaction Region(IR). In this work, we will present the latest design and study status of the CEPC MDI IR, covering the overall introduction, mechanical design, thermal analysis, background and shielding study, and other issues. Based on the design parameters presented in the CEPC Conceptual Design Report (CDR), we will introduce the optimized design(including the mechanical design) of the IR components, especially the central beam pipe, and also the super-conducting magnets. We have also updated the thermal analysis relating to HOM and SR, and the detailed background simulation containing event generation, tracking, and detector impact evaluation. We have also introduced several mitigation measures and the optimized design to improve the performance and stability of the CEPC MDI IR. In addition, we will discuss the lessons we have learned and possible improvements in our future study.

Time Zone

Asia/Pacific

Primary authors: SHI, Haoyu (IHEP); ZHU, Hongbo (Chinese Academy of Sciences (CN)); BAI, Sha (IHEP); Mr LIU, Yudong (IHEP, CAS); LI, Ke; Mr XU, Wei (IHEP, CAS); Prof. LOU, Xinchou (IHEP, CAS)

Presenter: SHI, Haoyu (IHEP)

Session Classification: PD7/A3/A4: MDI / BDS / CFS

Track Classification: Physics and Detectors Tracks: PD7: MDI