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Positron capture simulations of the FCC-ee positron source

Tuesday 31 May 2022 16:00 (15 minutes)

The presentation shows a simulation and optimisation of the FCC-ee positron source using a high-temperature superconducting (HTS) solenoid as the matching device to collect positrons downstream of the target. The conventional target scheme composed of simply a single tungsten is used. The target is placed inside the bore of the HTS solenoid to improve the positron yield. The position of the target is optimised. The latest recommended baseline beam parameters are also presented and used in the study. The accepted positron yield at the entrance of the damping
ring has been significantly improved compared with the flux concentrator matching device.

Author: Mr ZHAO, Yongke (CERN & Shandong University (CN))

Co-authors: LATINA, Andrea (CERN); AUCHMANN, Bernhard (PSI/CERN); CHAIKOVSKA, Iryna (CNRS/IJCLab); KOSSE, Jaap; DUDA, Michal (Paul Scherrer Institute (PSI)); CRAIEVICH, Paolo; MARTYSHKIN, Pavel; ZENNARO, Riccardo; CHEHAB, Robert (INSTITUT DE PHYSIQUE NUCLEAIRE DE LYON-IN2P3/CNRS (France)); OGUR, Salim (CNRS/IJCLab); DOEBERT, Steffen (CERN)

Presenter: Mr ZHAO, Yongke (CERN & Shandong University (CN))

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