



Contribution ID: 1857 Contribution code: THPS39

Type: **Poster Presentation**

Channeling performance of bent crystals developed at CERN

Thursday, 23 May 2024 16:00 (2 hours)

Bent crystals are a mature technology used in several applications at CERN, such as the crystal-assisted collimation system for LHC ion operation and reduction of losses during the slow extraction from the SPS by shadowing the electrostatic septum. In the future, it is planned to measure electric and magnetic dipole moments of short-lived particles with a double-crystal experiment in the LHC. To consolidate their strategic use, CERN has been equipped to produce in-house bent crystals. Each crystal is required to be fully validated before its installation by different techniques, such as metrology, X-ray diffractometry and characterization with beams. The latter can measure the bending angle, the torsion, and the channeling efficiency, which is related to crystal imperfections. In this contribution, we present the performance with beams of the first prototype bent crystals manufactured at CERN and tested during a measurement campaign in the North Area.

Footnotes

Funding Agency

Paper preparation format

LaTeX

Region represented

Europe

Primary author: RODIN, Volodymyr (European Organization for Nuclear Research)

Co-authors: ESPOSITO, Luigi Salvatore (European Organization for Nuclear Research); LECHNER, Anton (European Organization for Nuclear Research); DEMASSIEUX, Quentin (European Organization for Nuclear Research); MATHESON, Eloise (European Organization for Nuclear Research); SOLIS PAIVA, Santiago (European Organization for Nuclear Research); SEIDENBINDER, Regis (European Organization for Nuclear Research); ABERLE, Oliver (European Organization for Nuclear Research); PERILLO MARCONE, Antonio (European Organization for Nuclear Research); CALVIANI, Marco (European Organization for Nuclear Research); CERUTTI, Francesco (European Organization for Nuclear Research); Dr DI CASTRO, Mario (European Organization for Nuclear Research); GILARDONI, Simone (European Organization for Nuclear Research); HALL, Geoff (Imperial College of

Science and Technology); ROSSI, Roberto (European Organization for Nuclear Research); SCANDALE, Walter (Université Paris-Saclay, CNRS/IN2P3, IJCLab)

Presenter: RODIN, Volodymyr (European Organization for Nuclear Research)

Session Classification: Thursday Poster Session

Track Classification: MC7: Accelerator Technology and Sustainability: MC7.T20 Targetry and Dumps