technische universität
dortmund

SEMINAR TEILCHENPHYSIK

Thema

Extending the physics reach of the fixed-target programme at the LHCb experiment

Abstract

Owing to the injection of gas into the LHC beampipe while multi-TeV proton or ion beams are circulating, the LHCb experiment has the unique possibility to be operated as the as-of-today highest-energy fixed-target experiment. During the LHC Run 2, data were collected with injected helium, neon and argon and their analysis has given access to a previously unexplored kinematic region, providing unique inputs to several research fields, such as the nucleon structure, heavy-ion physics and astrophysics. The system has been significantly improved for Run 3 with SMOG2, a dedicated storage cell for the gas and a new injection system, and offers now increased luminosities and the possibility to inject non noble gases, expanding even more the physics opportunities of the LHCb fixed-target programme.

In this talk, the physics reach and the technical challenges of the SMOG and SMOG2 systems will be discussed, with a particular focus on recent and planned measurements of great interest for cosmic ray physics.

Vortragender

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Ort

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Zeit

Dienstag, 01.10.2024
15:00 – 16:00 Uhr

im Auftrag:

Dr. Maik Becker