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Development of new ion beams at the CERN ion injector complex for future physics programmes

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In an effort driven by the requests from different physics experiments at CERN, the CERN ion injector complex is looking to expand its capabilities by providing lighter-than-lead ion beams. Argon and xenon were delivered for NA61/SHINE physics in 2015 and 2017, with xenon also reaching the LHC in 2017. Oxygen is foreseen to be collided in the LHC in 2025, with magnesium, boron and krypton beams also being prepared. Before new ion species can be considered operational for experiments, the feasibility of producing and accelerating these beams throughout the accelerator complex has to be assessed.
This contribution presents an overview of the performance of the ion complex with recently tested magnesium ion beams, the latest results of the ongoing oxygen beam commissioning, and future plans concerning ion species that still need to be developed.

Footnotes

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Author: SLUPECKI, Maciej (European Organization for Nuclear Research)

Co-authors: HUSCHAUER, Alexander (European Organization for Nuclear Research); LASHEEN, Alexandre (European Organization for Nuclear Research); WOOLLEY, Benjamin (European Organization for Nuclear Research); GAMBA, Davide (European Organization for Nuclear Research); KUCHLER, Detlef (European Organization for Nuclear Research); MAHNER, Edgar (European Organization for Nuclear Research); WAAGAARD, Elias (École Polytechnique Fédérale de Lausanne); Dr CARLIER, Felix (École Polytechnique Fédérale de Lausanne); BELLODI, Giulia (European Organization for Nuclear Research); BARTOSIK, Hannes (European Organization for Nuclear Research); DAMERAU, Heiko (European Organization for Nuclear Research); WIDORSKI, Markus (European Organization for Nuclear Research); HANS, Oliver (European Organization for Nuclear Research); KRUYT, Peter (European Organization for Nuclear Research); ALEMANY-FERNANDEZ, Reyes (European Organization

for Nuclear Research); SCRIVENS, Richard (European Organization for Nuclear Research); WEGNER, Rolf (European Organization for Nuclear Research); ARGYROPOULOS, Theodoros (European Organization for Nuclear Research); BRUCE, Roderik (European Organization for Nuclear Research)

Presenter: BRUCE, Roderik (European Organization for Nuclear Research)

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