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The NA60+ experiment at SPS.

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A new apparatus, NA60+, is proposed for measuring muon pairs in the center-of-mass region from 5 to 17 GeV at CERN SPS in a variety of collisional systems from Pb+Pb and down to p+Be. The physics scope of the new detector will cover topics from the measurement of thermal radiation coming from the hot and dense medium to chiral symmetry restoration, strangeness, and charm production.

The proposed detector consists of a vertex spectrometer based on novel technology, allowing the production of large silicon sensors and a large-acceptance muon spectrometer based on gaseous detectors. With its high beam intensity, the new apparatus provides access to rare observables that have been scarcely studied until now. The new detector will come into operation after the Long Shutdown 3 of the LHC (past 2029) and is aimed at the first data-taking with Pb and proton beams. In this contribution, we review the project and recent R&D effort, including the technical aspects and the studies of the physics performances for the observables.

Category

Experiment

Collaboration

NA60+

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