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Dimuon experiments at the new COMPASS++/AMBER QCD facility at CERN

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The planned new fixed-target COMPASS++/AMBER QCD facility takes advantage of the uniqueness of the muon and hadron beams available at CERN. Its broad experimental programme aims at a deeper understanding of the strong interaction. After summarizing the main features of the facility, the present talk will focus on the Drell-Yan and charmonium production part of the programme. New high-statistics pion-induced data are expected to make a major contribution to the poorly known sea-quark distribution in the pion. In addition, comparison between light and heavy targets should shed new light on the EMC and energy loss effects.

On a longer term, the COMPASS++/AMBER facility will strongly benefit from the implementation of a new radio-frequency hadron beam separator, allowing for high-intensity kaon and antiproton beams. The talk will outline the physics opportunities offered by such an upgrade, namely on the kaon structure, which is experimentally unknown.

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