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Meson and Hadron structure in the new QCD facility at the M2 beam line at CERN

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The new planned QCD facility at the M2 beam line of the CERN SPS will have a broad experimental programme addressing fundamental issues leading to significant improvements in our understanding of strong interactions. The presentation will be focused on the Drell-Yan programme, which aims to make a major step forward in the determination of the nearly unknown pion and kaon parton distribution functions (PDFs). The improved knowledge of the onset of the sea and gluon distributions in the meson will help in explaining the differences between the gluon contents of pions, kaons and nucleons, and hopefully provide clues to understand the mechanism that generates the hadron masses.

The possibility to combine an antiproton beam with a transversally polarised proton target to study TMD PDFs will also be discussed. The M2 secondary hadron beam line at the CERN SPS provides an exclusive opportunity for such measurements.

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