

# BEACH 2010 - IX International Conference on Hyperons, Charm and Beauty Hadrons



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## Quarkonium and Heavy Flavour Physics with the ALICE Muon Spectrometer at the LHC

The LHC heavy-ion physics programme aims at investigating the properties of strongly interacting matter at extreme energy density where the formation of the Quark Gluon Plasma (QGP) is expected. Amongst the most promising observables, quarkonia and heavy flavours are especially relevant since they provide unique access to the properties of the strongly interacting medium, independently of their leptonic decay. The successful achievement of the heavy-ion programme requires also the study of proton-proton collisions. Besides providing the necessary baseline for nucleus-nucleus collisions, proton-proton collisions are of great interest, also in their own right, since they allow to test perturbative QCD at unprecedented low Bjorken- $x$  values.

ALICE (A Large Ion Collider Experiment) is the only detector dedicated to the study of nucleus-nucleus collisions at the LHC. Quarkonia and heavy flavours are measured in ALICE with (di)-electrons and (di)-muons and, through the hadronic channels. After a description of the ALICE muon spectrometer, its expected performances for quarkonium and heavy flavour measurements will be reviewed. Special attention will be given to the first experimental results obtained in  $p$ - $p$  collisions collected at 7 TeV.

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