

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



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Studies of open charm and charmonium production at LHCb

The first heavy flavour measurements at LHCb will concern open charm and J/ψ production. Charm hadrons will be reconstructed in modes such as $D^0 \rightarrow K\pi$ and $D^\pm \rightarrow K\pi\pi$ and their inclusive production observed in the forward region covered by LHCb. The inclusive J/ψ production cross section will be measured with the decay mode $J/\psi \rightarrow \mu\mu$, as a function of the J/ψ rapidity y and transverse momentum p_T , in the region $3 < y < 5$ and $p_T < 7\text{-GeV}/c$. Contributions of J/ψ from b-hadron decays will be separated from prompt J/ψ produced directly in the pp collisions or in the decays of heavier prompt states, and the production polarisation of the prompt J/ψ component will be determined. First experiences from the 2010 LHC run will be reported, and the status of the measurements will be reviewed.

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