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Measurement of the X(3872) production cross section via decays to J/Psi pi+ pi-

The study of the X(3872) production is the first target in “exotic” quarkonium spectroscopy in CMS. The X(3872) state is reconstructed in the decays to $J/\psi \pi^+\pi^-$, where the J/ψ decays to two muons. The cross-section ratio w.r.t. the $\psi(2S)$ is measured as a function of transverse momentum, covering unprecedentedly high values of p_T . For the first time at the LHC the fraction of X(3872) coming from B-hadron decays is established. From these measurements the prompt X(3872) cross section times branching fraction is extracted differentially in p_T and compared with NRQCD predictions. The $\pi^+\pi^-$ mass spectrum of the $J/\psi \pi^+\pi^-$ system in the X(3872) decays is also investigated.

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