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Measurement of Quarkonium Production with CMS

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This talk presents quarkonium results, colllected in pp collisions at sqrt(s) = 7 TeV by the CMS collaboration, including the pT and rapidity differential prompt production cross-section of S-wave state quarkonia (J/psi, psi', Y(nS)), extending over a range of up to 100 GeV. We also present the B-hadron fraction in the charmonium system, differentially in pT.

Given its powerful Silicon tracker, CMS has excellent photon conversion capabilitites, allowing to separately study the chic2 and chic1 P-wave states, separated by a mass difference of 45 MeV only.

Finally, we present results on the production of two J/Psi. This final state is expected to provide constraints on contributions from single-parton (SPS) versus double-parton (DPS) scattering. From proton collisions at sqrt(s)=7TeV corresponding to an integrated luminosity of about 5fb-1 taken in 2011 the total production cross section in an acceptance regime defined by the individual J/psi transverse momentum and rapidity has been measured. In addition, the difference in rapidity Delta-y between the two J/psi in the event has been measured and the ratio between SPS and DPS production applying several production models has been estimated.

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