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## Cross section, polarization and multiplicity dependence of $J/\psi$ production in pp collisions at the LHC

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The measurement of  $J/\psi$  production in proton-proton collisions at the LHC energy regime allows to test QCD calculations. In addition, it provides the necessary reference for the ALICE Pb-Pb program. ALICE collected proton-proton collisions at  $\sqrt{s} = 7$  and 2.76 TeV in 2010 and 2011.

In this talk, we present the latest results on  $J/\psi$  production in proton-proton collisions, measured by ALICE at both mid and forward rapidity via its leptonic decay channels. These results include the differential production cross section, the first LHC result on  $J/\psi$  polarization, the charged particle multiplicity dependence of  $J/\psi$  production and a measurement of non-prompt  $J/\psi$  resulting from B-hadron decays at central rapidity down to very low  $p_t$ .

Comparisons with different theoretical models will be discussed.

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