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Study of J/psi Pair Production GRANT RILEY, Univ of Tennessee, Knoxville, CMS COLLABORATION — We study the J/psi pair final state produced in proton-proton collisions at the LHC at 7 and 8 TeV center-of-mass energies with the CMS detector. The J/psi are reconstructed from their decay into muon pairs where the CMS detector provides excellent identification for muons with momenta as low as 2 GeV. In this final state, eventual resonances are predicted such as η_b, heavy quark tetra-quarks governed by strong interaction or a low-mass Higgs bosons in minimal SUSY extensions of the standard model. An important step in isolating signals is the understanding of the non-resonant J/psi pair production. Only recently based on the coss section measurements in LHCb and complementary measurements in CMS have production models been provided that not only include single-parton scattering but double-parton scattering and consider color singlet and color octet intermediate J/psi states. This measurement and the search for di-quarkonia resonances is presented here.

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