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Exclusive and diffractive physics with CMS

In this talk, recent CMS physics analysis on the measurement of central exclusive production as well as soft and hard diffractive processes are discussed. Measurement of the exclusive two-photon production of WW pairs in pp collisions at 7 TeV, based on samples of events collected during 2011 physics runs, is presented. In particular, these measurements should provide unique sensitivity to anomalous quartic couplings of the gauge bosons. Exploratory studies showed potential for extending the experimental reach by several orders of magnitude with respect to the best limits so far obtained at LEP. A search for central exclusive gamma pair production and observation of central exclusive electron pair production in pp collisions at 7 TeV is also presented. An upper limit on the diphoton production cross section is set at 95% confidence level, and a comparison between the measurement and the QED prediction is discussed for dielectron production.

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