

Constraints on Anomalous Quartic Couplings through exclusive and quasi-exclusive W^+W^- production by two-photon exchange at CMS

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A search for exclusive and quasi-exclusive two-photon production of $W^\pm W^\mp$ in the fully leptonic channel, $pp \rightarrow p^{(*)}W^+W^-p^{(*)} \rightarrow p^{(*)}\mu^\pm e^\mp p^{(*)}$, was performed using 5.05fb^{-1} of data collected at $\sqrt{s} = 7$ TeV by the CMS detector in 2011. The presence of quartic gauge boson couplings (QC) emerges naturally from the non-abelian gauge symmetry structure of the Standard Model. The study of QC is mainly motivated by the hope that some new physics might result in deviations of them. Considering genuine anomalous quartic operators, via an effective Lagrangian approach, the limits obtained on the anomalous quartic gauge couplings parameters are approximately one order of magnitude more stringent than the limits obtained at LEP.

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