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Type: **Experiment**

Measurement of double parton scattering in $W + 2$ jets production at $\sqrt{s} = 7$ TeV with the ATLAS detector

The presence of double parton scattering in proton-proton collisions at $\sqrt{s} = 7$ TeV was measured by the ATLAS detector at the LHC. The analysed dataset was recorded in 2010 and corresponds to an integrated luminosity of 36 pb⁻¹. The process under study is the production of a W boson, decaying into an electron or muon, in association with two jets.

The fraction of double parton scattering events is found to be 0.08 ± 0.01 (stat.) ± 0.02 (syst.).

This corresponds to a measurement of the effective area parameter for hard double-parton interactions of 15 ± 3 (stat.) $^{+5}_{-3}$ mb.

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