

Measurement of $4ljj$ production using 140 fb⁻¹ of proton-proton collision data at $\sqrt{s}=13$ TeV with the ATLAS detector

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The ATLAS measurement of differential cross-sections for the production of four charged leptons and two jets with the full Run 2 pp collision data will be presented. The cross-sections were measured in two distinctive signal regions characterised by an enhanced contribution from events arising out of strong and electroweak interactions, respectively. An iterative unfolding procedure was used to correct the data for the detector inefficiency and resolution, allowing for a direct comparison to predictions from state-of-the-art Monte Carlo simulations. Vector Boson Scattering processes can be used to probe the weak-boson self-interactions and search for anomalous couplings. In this context, the unfolded cross-sections were interpreted in a Standard Model Effective Field Theory, providing limits on the coupling of dimension-6 and dimension-8 operators. No significant deviations from the Standard Model predictions were observed.

Alternate track

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