

## Diffractive Scattering at the LHC

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This talk will present a study of diffractive scattering of high-energy protons at the LHC. Hadronic diffraction is not well-understood and many alternative approaches exist. The Monte Carlo event generator Pythia follows a Pomeron-based approach, where the invariant mass of the diffractive system and the squared momentum transfer of the system is set up according to a phenomenological Pomeron flux parameterization. Simulated single diffractive events with a fast detector response simulation of the ATLAS and ALFA detectors have been compared to 13 TeV Run 2 data.

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