

Observation of EW vector boson scattering processes with the ATLAS detector

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In the Standard Model of particle physics, elementary particles acquire their masses by interacting with the Higgs field. This process is governed by a delicate mechanism: electroweak symmetry breaking (EWSB). Although EWSB was first proposed in 1964, it remains among the least understood phenomena of the Standard Model as a large dataset of high-energy particle collisions is required to probe it. ATLAS has recently observed the electroweak production of two jets in association with a Z-boson pair using the full Run 2 data collected during year 2015 to 2018, which marks the new milestone in the study of EWSB. A detailed review of this analysis will be presented, and further scrutiny of EWSB will continue in other channels as well as with future datasets at the LHC

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