

# SM@LHC 2021

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## Observation of electroweak production of two jets and a Z-boson pair with the ATLAS detector at the LHC

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The observation of electroweak production of two jets in association with a Z- boson pair using  $139 \text{ fb}^{-1}$  of pp collision data at  $\sqrt{s} = 13 \text{ TeV}$  collected by the ATLAS detector at the LHC is reported. Two different final states originating from the decays of the Z boson pair,  $4l$  and  $2l2\nu$ , are included in the measurements. A significant data excess from the background-only hypothesis is observed, which corresponds to a statistical significance of  $5.5\sigma$ . The observed excess is compatible with the electroweak production of two jets in association with a Z-boson pair in vector-boson scattering processes. The cross-sections for inclusive production of ZZ plus two jets, as well as the observed signal strength of the EW production, are presented.

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