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Evidence for the WWW triboson production with the ATLAS detector

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The joint production of three vector bosons is a rare process in the Standard Model. Studies of triboson production can test the non-Abelian gauge structure of the SM theory and any deviations from the SM prediction would provide hints of new physics at higher energy scales. This talk presents the first evidence of *WWW* triboson production by the ATLAS collaboration using data collected in *pp* collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector between 2015 and 2017, corresponding to an integrated luminosity of 79.8 fb⁻¹. In the measurement, events containing two same-sign leptons and at least two jets are selected for $WWW \rightarrow \ell\nu\ell\nu qq$ channel, while events with three leptons without any same-flavor opposite sign leptons are used for $WWW \rightarrow \ell\nu\ell\nu\ell\nu$ channel.

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