



**38th INTERNATIONAL CONFERENCE
ON HIGH ENERGY PHYSICS**

AUGUST 3 - 10, 2016
CHICAGO

Contribution ID: 1299

Type: **Oral Presentation**

WW + jet at 14 and 100 TeV (15' + 5')

Friday, 5 August 2016 17:55 (20 minutes)

In the second run of the LHC, which started in April 2015, an accurate understanding of Standard Model processes is more crucial than ever. Processes including electroweak gauge bosons serve as standard candles for SM measurements, and equally constitute important background for BSM searches. We here present the NLO QCD virtual contributions to $W+W^- + \text{jet}$ in an analytic format obtained through unitarity methods and show results for the full process using an implementation into the Monte Carlo event generator MCFM. Phenomenologically, we investigate total as well as differential cross sections for the LHC with 14 TeV center-of-mass energy, as well as a future 100 TeV proton-proton machine.

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Session Classification: Top Quark and Electroweak Physics

Track Classification: Top Quark and Electroweak Physics