Contribution ID: **382** Type: **Poster Presentation**

Exotic diboson searches in the lvqq final state using data at $\sqrt{s}$ = 13 T eV collected with the ATLAS detector

Analyses searching for diboson resonances are very powerful tools to investigate many beyond the Standard Model (BSM) scenarios such as extension of the Higgs sector, Heavy Vector triplets (W'and Z') or excited states of Gravitons. These searches exploit the many decay channels of the two bosons allowing to select topologies with varied signal to background ratios and statistics. Among these searches the search for WW/WZ in the semileptonic final state finds a compromise between the high signal statistics allowed by the high branching ratio of the hadronic decay of the gauge boson while profiting of the good trigger and analysis signature of the lepton, decay product of the second gauge boson. The WW/WZ search for TeV scale resonances in the lvqq channel will be detailed, explaining the current boson-tagging techniques and the signal categorization used to improve sensitivity. The limit presently set in the various scenarios using 2015-2016 dataset will be reported.

Experimental Collaboration

ATLAS

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Session Classification: Poster session

Track Classification: Higgs and New Physics