Stony Brook University
The Graduate School

Doctoral Defense Announcement

Abstract

Search For Gravitons Decaying To Vector Bosons In Hadronic Final States in proton-proton Collisions at $\sqrt{s} = 8 TeV$ Collected With The ATLAS Detector

By

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ATLAS data are used to search for narrow diboson resonances in a dijet final state where each jet is tagged as a boson using jet mass and substructure properties. The data are the 20.3$fb^{-1}$ of proton-proton collisions collected in 2012. A search for $G \rightarrow WW/ZZ$ is performed over the diboson mass range $1.2 < m_{VV} < 3.0 TeV$. The most significant excess is of approximately 2.5$\sigma$ at around 2$TeV$. Limits on $\sigma$-BR (the production cross section times branching ratio) for this process are reported as a function of the graviton mass.

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