

**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 $\sqrt{s} = 8TeV$ Collected With The ATLAS De-
tector

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 20.3fb^{-1} of proton-proton collisions collected in 2012. A search for $G \rightarrow WW/ZZ$ is performed over the diboson mass range $1.2 < m_{VV} < 3.0TeV$. The most significant excess is of approximately 2.5σ at around $2TeV$. Limits on $\sigma \cdot BR$ (the production cross section times branching ratio) for this process are reported as a function of the graviton mass.

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Place: Physics Building, D 122

Program: Physics

Dissertation Advisor: Dr Robert McCarthy