

Abstract Submitted  
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**Search for Diphoton Resonances at High Masses** K. DINDAR-YAGCI, H. HADAVAND, R. KEHOE, Southern Methodist University, ATLAS COLLABORATION — One possible explanation of electroweak symmetry breaking is the presence of extra spatial dimensions. The observation of a Randall-Sundrum graviton decaying into two high-energy photons would be evidence for this model. I will review the sensitivity studies that have been undertaken with the ATLAS experiment focusing on the selection criteria, signal efficiency, and background estimation. The effects of the coupling of the graviton ( $k/\overline{M}_{Pl}$ ) and collision energy on the discovery potential with early LHC data will be discussed.

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