SEARCHES FOR AND IDENTIFICATION EFFECTS OF EXTRA SPATIAL DIMENSIONS IN DILEPTON AND DIPHOTON PRODUCTION AT THE LHC

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Arkani-Hamed, Dimopoulos and Dvali proposed a model in which gravity propagates freely in d extra compact spatial dimensions. The prospects of discovery and identification of large extra spatial dimensions effects in the processes of lepton and photon pair production at the Large Hadron Collider (LHC) were studied. These effects can be found by the specific behavior of the invariant mass distributions of the lepton and photon pairs. Identification of the effects under study can be performed with angular distributions of lepton and photon pairs. Discovery and identification reach on the mass scale parameter M_s can be obtained for graviton Kaluza-Klein towers in lepton and photon pair production processes at the LHC.