

Journal Club

Livia Soffi

INFN Roma



Search for New Physics with Photons at the LHC

The Large Hadron Collider is conceived as a discovery machine that will revolutionize our understanding of the physics of elementary particles and their interactions. So far the CMS experiment at the LHC has collected roughly 20 fb^{-1} of data, at a center of mass energy of 8 TeV during 2012, and the hunt for exotic new phenomena has covered many different and interesting physics possibilities. This talk will discuss what sort of physics beyond the standard model could be discovered at LHC exploiting striking signatures with photons. Photons are reconstructed with high purity and efficiency in the Electromagnetic Calorimeter of CMS and provide a clean experimental signature for an indisputable discovery. I will describe different analysis strategies and methods, and the challenges that the experiment must overcome. I will also touch the future prospects and challenges of these searches as LHC enters the run at 13 TeV in 2015.

Friday

Nov. 21, 2014, 4:00pm

301 Physical Sciences Bldg.
(Refreshments at 3:45pm)