

NWS12-2012-000013

Abstract for an Invited Paper  
for the NWS12 Meeting of  
the American Physical Society

### **Recent LHC results**

ANADI CANEPA, TRIUMF

What is the Universe made of? What is the nature of matter? How can we explain the matter vs antimatter asymmetry? Are there extra dimensions of space-time? The Large Hadron Collider (LHC) by recreating the same conditions as those soon after the Big Bang has the potential to answer these questions. The LHC is the highest energy proton-proton collider in the World. Collisions are recorded by the ATLAS and CMS detectors, which are both unprecedented in scale and complexity. The data recorded in 2011 and 2012 lead to the discovery of a Higgs-boson like resonance assumed to be the key ingredient for the generation of mass. Thanks to the excellent performance of the accelerator and of the detectors, future searches have the potential to discover new phenomena, such as Supersymmetry or extra dimensions. We live in a time when the exploration of fundamental particles and their interactions can lead toward a revolutionary new understanding of the universe.