

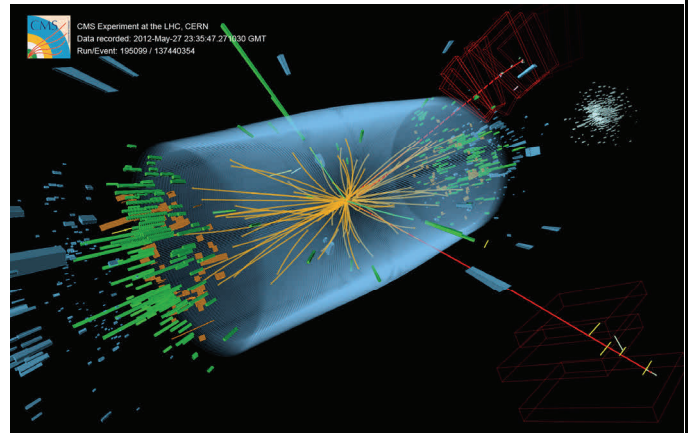
Physics & Space Sciences department presents:



Dr. Francisco Yumiceva
Florida Institute of Technology

The Hunt for the Higgs Particle

In July 2012, the most powerful particle collider in the world, known as the Large Hadron Collider or LHC, announced the observation for the first time of a subatomic particle that has properties similar to the long-sought Higgs boson particle. Since then, we have refined this search by including even more data and improving the analysis techniques. The latest results have indeed confirmed the observation of



the Higgs boson. I will describe these results and the initial measurements of the Higgs properties. This discovery is one of science's greatest achievements of this century. The standard model of particle physics, that explains the electromagnetic, weak, and strong nuclear interactions, is finally complete. However, the standard model is far from being a complete theory of nature because it does not incorporate the theory of gravitation or predict the accelerating expansion of the universe or contain dark matter particles. The discovery of the Higgs boson is the first step in a long journey toward understanding the evolution of our universe. This year, the LHC accelerator stopped colliding particles and is being upgraded to operate about twice the current energy in 2015. I will also describe the plans to upgrade the detector that will extend our discovery capacity in the next operation period.

Friday, April 5, 2013

4:00—5:00 PM

OPS Room 140