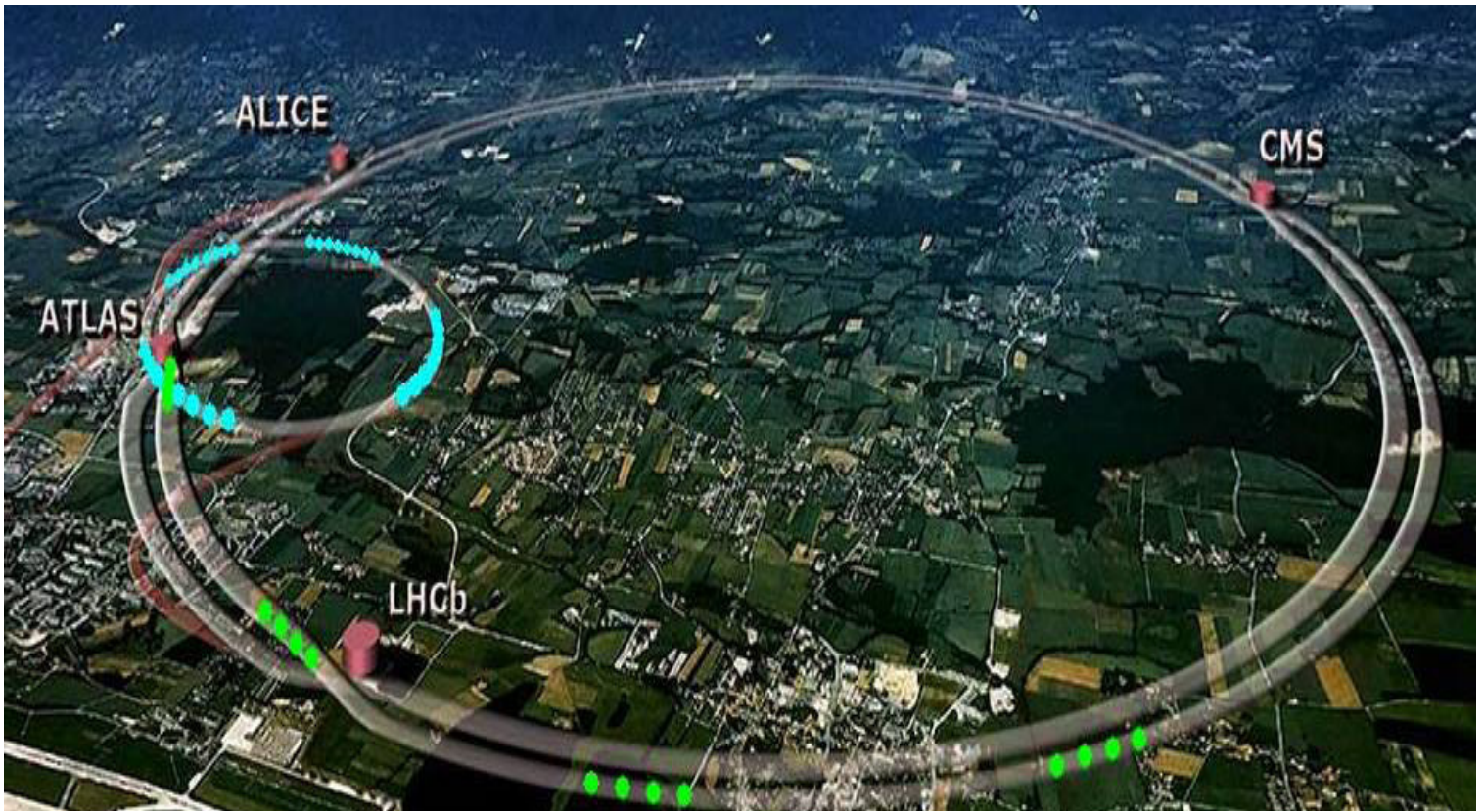


Boston University High Energy Experiment Seminar



LHC Phenomenology for String Hunters

We consider extensions of the standard model based on open strings ending on D-branes, with gauge bosons due to strings attached to stacks of D-branes and chiral matter due to strings stretching between intersecting D-branes. Assuming that the fundamental string mass scale is in the TeV range and the theory is weakly coupled, we discuss possible signals of string physics at the LHC. In such D-brane constructions, the dominant contributions to full-fledged string amplitudes for all the common QCD parton subprocesses leading to dijets are completely independent of the details of compactification, and can be evaluated in a parameter-free manner. We make use of these amplitudes evaluated near the first resonant pole to determine the discovery potential of LHC for the first Regge excitations of the quark and gluon. Remarkably, string scales as high as 6.8 TeV can be discovered with 100 fb^{-1} at $\sqrt{s} = 14 \text{ TeV}$.

Luis Anchordoqui

University of Wisconsin - Milwaukee

April 16, 2010 (Friday) at 2:30pm

3 Cummington St., Room 595, Boston University