



Laboratory for Elementary Particle
Physics (LEPP)

Theory Seminar

Physics Motivations for Future Colliders



Tao Han

University of Pittsburgh

With the milestone discovery of the Higgs boson at the CERN LHC, high energy physics has entered a new era. The Higgs boson is the last member in the “Standard Model” (SM) of particle physics, which describes the physical phenomena at high energies to a very high accuracy. The completion of the Standard Model implies, for the first time ever, that we have a relativistic, quantum-mechanical, self-consistent theoretical framework, valid up to exponentially high energies, perhaps to the Planck scale. Yet, there are compelling reasons, both from observations and from theoretical considerations, to believe that new physics beyond the SM is not far from our reach. I discuss the need for new physics, and motivate the future colliders beyond the LHC to explore the new territory under the “Higgs lamppost”.

Friday October 6th, 2017

1:00pm

401 Physical Sciences Building