



PHYSICS AND ASTRONOMY COLLOQUIUM

Dr. Guy Wormser

Laboratoire de l'Accélérateur Linéaire, CNRS

“Lepton Universality violation, a promising approach towards new physics beyond the Standard Model”

Abstract

The Standard Model of particle physics, one of the most remarkable theoretical constructions of the 20th century, has a very precise prediction power for all terrestrial experiments using accelerators. Although it is almost certain, for reasons that will be explained in this talk, that the SM is not the final theory, it resists up to now to all attempts to discover any deviation from its predictions that could show the path towards a more complete theory. However, one of its most solid predictions, namely that all charged leptons (the electron and its two heavier cousins, the muon and the tau) should behave exactly in the same way (a property called lepton universality) is currently challenged by recent results, notably from the LHCb experiment at CERN. We will explain how it is possible to search for lepton universality violation, the critical importance of such a potential violation, and future prospects in this area.

Wednesday, September 27, 2017

2:30 p.m.

Elliott Building

Room 167