Physics of fundamental Symmetries and Interactions - PSI2013

Contribution ID: 20

Light muonic atoms in search of new interactions at the Compton wavelength scale

Monday 9 September 2013 11:00 (25 minutes)

Assuming validity of electronic and muonic hydrogen experiments and assuming universality of lepton interactions, it is plausible to expect an unknown yet interaction at the range of the electron Compton wavelength. There are accurate measurements in search for such forces at larger distances, like that with the molecular hydrogen, H_2^+ or antiprotonic helium, but muonic hydrogen is the first accurate test of fundamental interactions at a few hundreds fm scale.

I will critically review solutions of the proton charge radius puzzle proposed in the literature and emphasize the importance of μ He measurement.

Primary author: Prof. PACHUCKI, Krzysztof (Institute of Theoretical Physics, University of Warsaw)
Presenter: Prof. PACHUCKI, Krzysztof (Institute of Theoretical Physics, University of Warsaw)
Session Classification: Mo - 2