

Hydrogen, at MIT and UFRJ, and Antihydrogen Laser Spectroscopy, at the ALPHA collaboration at CERN

Friday 7 July 2023 08:30 (35 minutes)

I will discuss laser spectroscopy, particularly on the $1S-2S$ transition, of Hydrogen (H) and Antihydrogen (Hbar). The study of H recalls the work done at MIT in mid 90's and the setup under construction at UFRJ. The work with Hbar is done at the ALPHA collaboration at CERN. Details on line shapes, transition rates, detection schemes, will be discussed. The work has intimate connection to fundamental physics tests such as Charge-Parity-Time (CPT) symmetry, Quantum-Electrodynamics (QED), and Lattice-QCD tests as it is advancing towards predicting the proton charge radius.

Author: LENZ CESAR, Claudio (Federal University of Rio de Janeiro (BR))

Presenter: LENZ CESAR, Claudio (Federal University of Rio de Janeiro (BR))

Session Classification: Atoms and Exotic Atoms II