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The proton charge radius from the PRad experiment

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Despite decades of efforts in studying the internal structure of the nucleon, there are still a number of puzzles surrounding the proton such as its spin, mass, and the charge radius. The proton charge radius puzzle developed about ten years ago refers to a $5\text{--}7\sigma$ discrepancy between the ultrahigh precise values of the proton charge radius determined from muonic hydrogen Lamb shift measurements and the CODATA values compiled from electron-proton scattering experiments and hydrogen spectroscopy measurements. In this talk, I will introduce the proton charge radius puzzle and then focus on the PRad experiment at Jefferson Lab and its result.

Author: Prof. GAO, Haiyan (Duke University)

Presenter: Prof. GAO, Haiyan (Duke University)

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