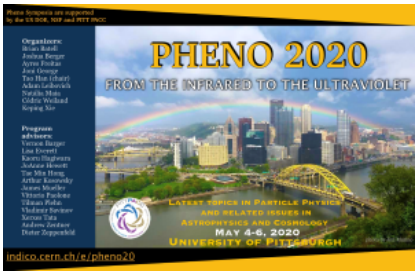

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The proton radius puzzle

Monday 4 May 2020 15:00 (15 minutes)

For almost 10 years now we are facing the proton radius puzzle, the difference between the proton charge radius extraction using electrons and muons. Taken at face value, the puzzle might be an indication of a new force in nature coupling to muons, but not to electrons. Recently PRad, a new electron-proton scattering experiment at Jefferson Lab, reported a proton charge radius that agrees with the muonic value. We perform a model-independent extraction of the proton charge radius from the PRad data. We find that the model-independent statistical error is more than 50% larger compared to the statistical error reported by PRad. We discuss the implications for the proton radius puzzle.

Summary

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