

Abstract Submitted
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The Charge Radius of the Proton, a 5 Sigma Discrepancy? GIL PAZ, The University of Chicago — Recently, the charge radius of the proton was extracted, for the first time, from muonic hydrogen. The value was 5 sigma away from similar measurement of regular hydrogen. The extraction of the charge radius depends on a theoretical input. Together with Richard J. Hill, we are studying the hadronic uncertainty in the theoretical prediction, using the tool of an effective field theory, namely NRQED. In the talk I will report on the results of this study. I will also report on a previous study of the model- independent extraction of the charge radius from electron-proton scattering, which found that previous extractions have typically underestimated their errors.

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