Is the proton charge radius puzzle solved?

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Laser spectroscopy of simple atoms is sensitive to properties of the atomic nucleus, such as its charge and magnetization distribution, or its polarizability. This allows determining the nuclear parameters from atomic spectroscopy, but also limits the attainable precision for the determination of fundamental constants or the test of QED and the Standard Model. ewline In light muonic atoms and ions, one negative muon replaces all atomic electrons, resulting in a calculable hydrogen-like system. Due to the muon's large mass (200 times the electron mass), the muon orbits the nucleus on a 200 times smaller Bohr radius, increasing the sensitivity of muonic atoms to nuclear properties by 200^3 = 10 million. ewline This has resulted in a 10fold increase in the precision of the charge radius of the proton, deuteron, and the stable helium nuclei. The consequences for atomic and nuclear physics, the determination of fundamental constants, and the test of QED and the Standard Model are discussed.