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Light muonic atoms in search of new interactions at the Compton wavelength scale

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Assuming validity of electronic and muonic hydrogen experiments
and assuming universality of lepton interactions, it is plausible
to expect an unknown yet interaction at the range of the electron Compton wavelength. There are accurate measurements in search for such forces at larger distances, like that with the molecular hydrogen, H_2^+ or antiprotonic helium, but muonic hydrogen
is the first accurate test of fundamental interactions at a few hundreds fm scale.

I will critically review solutions of the proton charge radius puzzle
proposed in the literature and emphasize the importance of μHe measurement.

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