

Abstract Submitted  
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**Proton Halos in Effective Field Theory**<sup>1</sup> BIJAYA ACHARYA,  
DANIEL PHILLIPS, Ohio University — Single proton halo systems are studied using an effective field theory (EFT) that exploits the separation of scales between the size of the system and the size of the core. The strength of Coulomb interaction between the proton and the core is calculated at leading order (LO) and next-to-leading order (NLO) in the EFT by using the effective range parameters derived from a square well model. The LO and the NLO results are compared to the full result obtained by solving the Schrödinger equation for the square well model. This is done both at first order and to all orders in the electromagnetic coupling constant. Calculations of proton halo electromagnetic observables of will be presented.

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