

Abstract Submitted
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Tests of new physics explanations for the proton radius puzzle

CARL CARLSON, William and Mary — An explanation for the discrepancy in the muonic vs. electronic measurements of the proton charge radius could be the existence of new, lepton universality violating interactions. If true, these must affect other measurements involving muons. Fine tuning could keep the muonic ($g-2$) discrepancy small. However, signals in other muonic reactions must appear, for example noticeable corrections to muonic K decay. We will explore some of these processes and show that the expected size of signals would be large enough to see.

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