

Abstract Submitted
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π^0 meson radiative width results on ^{12}C from the PrimEx collaboration at Jefferson Lab ERIC CLINTON, PRIMEX COLLABORATION — The π^0 lifetime is arguably the most precise theoretical calculation possible in low energy QCD, but current world's data is not commensurate with current theory. The next-to-leading order Chiral Perturbation Theory calculation [hep-ph/0206007] calls for a π^0 radiative width of $8.1 \text{ eV} \pm 1\%$. The PDG average stands at $7.84 \text{ eV} \pm 7\%$. The Primakoff Experiment (PrimEx) collaboration has utilized the Primakoff effect, photo-meson production in the Coulomb field of nuclei, to measure the π^0 radiative width. The final sensitivity of this π^0 lifetime measurement is expected to approach 1.5%. The PrimEx collaboration recorded data in the Fall of 2004 in Hall B of the Thomas Jefferson National Accelerator Facility. Preliminary results for this run will be presented. This is expected to be a stringent test of the U(1) axial anomaly and thus fill an important gap in our knowledge of low energy QCD.

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