

Abstract Submitted
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Status of the PrimEx-II Analysis on the π^0 Lifetime Measurement¹ LINGLING MA, Lanzhou University, THE PRIMEX COLLABORATION — As the lightest particle in the hadron spectrum, π^0 plays an important role in understanding the fundamental symmetries of QCD. The $\pi^0 \rightarrow \gamma\gamma$ decay is a key test of the QCD predictions based on the chiral anomaly and spontaneous chiral symmetry breaking. Theoretical activities over the last decade have resulted in a high precision (1% level) in the calculations of the decay amplitude of the π^0 into two photons. The experimental measurement of this parameter with a comparable precision will be critical to test these important predictions. The PrimEx collaboration at Jefferson Lab has developed and performed experiments to measure the π^0 radiative decay width via the Primakoff effect. The published result from the first experimental data (PrimEx-I) has a 2.8% total uncertainty in the π^0 radiative decay width. The second experiment (PrimEx-II) was carried out in fall 2010 with the final goal of 1.4% precision. The status of PrimEx-II data analysis will be presented.

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