

Abstract Submitted
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The Neutral Pion Radiative Width: Results from PrimEx II Experiment at Jefferson Lab¹ ILYA LARIN, Univ. of Massachusetts Amherst — The $\pi^0 \rightarrow \gamma\gamma$ decay represents one of the key processes in anomaly sector of QCD. Its amplitude is determined by the chiral anomaly resulting from the coupling of quarks to the electromagnetic field. Recent theoretical calculations have been made within Chiral Perturbation Theory. Including well-known parameters, they predict decay width at a percent precision level. Therefore, precise measurement of $\pi^0 \rightarrow \gamma\gamma$ decay width gives a unique possibility to check theory predictions. Primakoff effect is a powerful tool for measuring radiative width of particles. In this talk, preliminary results of the PrimEx-II experiment performed at Jefferson Lab will be presented. The PrimEx-I experiment performed in 2004 achieved precision of 2.8%. The purpose of the second experiment was to reach the 1.5% precision level. PrimEx-II was performed in 2010 with collection of five times more statistics. Future Primakoff experiments planned at Jefferson Lab will also be discussed.

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