

Abstract Submitted  
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**Analysis of  $\pi^0$  spectra from the 5 TeV p-Pb ALICE run** IVAN CHERNYSHEV, University of California Berkeley — This work examined the  $\pi^0$  spectra of the data collected during the 5 TeV p-Pb run in 2013 at the ALICE detector at the Large Hadron Collider in CERN. The  $\pi^0$  data is constructed via its diphoton decay. The data are split into 5 pT intervals ranging from 6 GeV to 16 GeV and given several cuts along various parameters, such as photon electromagnetic shower shape, asymmetry of the decay, and several quality variables. It is then analyzed with a variety of fit methods, notably fitting to a Gaussian peak + second-order polynomial background model. The conclusions derived from this analysis, most notably  $\pi^0$  mass, signal-to-noise ratio, and effects of various cuts to the data, will then be used for various purposes in the context of  $\pi^0$  analysis with ALICE data, most notably helping to train neural networks to identify photons.

Ivan Chernyshev  
University of California Berkeley

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