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Simulation of (-)Pion-Proton→(0)Kaon-Lamda Reaction in the Region of the N*(1710) Resonance JOSEPH KISH, Abilene Christian University — The N*(1710) (-)Pion-Proton→(0)Kaon-Lamda resonance is a poorly defined excited state of the nucleon. Current data are outdated and various partial wave analyses do not agree very well. In order to gain a greater understanding of the N*(1710) resonance a collaboration was formed between Petersburg Nuclear Physics Institute (PNPI), Institute for Theoretical and Experimental Physics (ITEP), and Abilene Christian University (ACU). This experiment, called EPECUR, expects to resolve several uncertainties regarding the N*(1710)'s existence, mass, width, and branching fractions. The experiment is scheduled to run during the summer of 2008. In preparation, ACU is simulating the experiment utilizing the GEANT4 simulation package and analyzing the data with ROOT and MINUIT. Recent improvements to an algorithm for event reconstruction have increased the percentage of correctly identified events in the (-)Pion-Proton→(0)Kaon-Lamda reaction from ∼60% to over 90%. These improvements as well as proposed future modifications will be discussed.

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