A Statistically Optimal Algorithm for Filtering the Hydrogen Asymmetry data in the $np \rightarrow d\gamma$ **Experiment** JASON FRY, Indiana University, NPDGAMMA COLLABORATION — The NPDGamma Experiment seeks to measure the parity violating gamma asymmetry from polarized neutrons captured on protons at the Spallation Neutron Source at ORNL. This parity violating asymmetry, A_γ, is directly related to the $\Delta I = 1$ contribution of the hadronic weak interaction and will be measured to a precision of 1×10^{-8}. Liquid para-hydrogen production data has been taken since May 2012. As one of the parallel analyses of NPDGamma, we present a statistically optimal algorithm using a least squares fit to the 60Hz neutron pulses in order to filter, and make high level cuts on, production data. We show that this algorithm is sensitive to neutron beam intensity fluctuations, dropped pulses, background effects, and wraparound neutrons, among others.

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