

Abstract Submitted
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Extracting and correcting neutron kinetic energy from neutron time-of-flight in the NIFFTE experiment VANESSA AGUILAR, California Polytechnic State University, San Luis Obispo, NIFFTE COLLABORATION — The Neutron Induced Fission Fragment Tracking Experiment (NIFFTE) investigates nuclear fission using pulsed beams provided by the Los Alamos Neutron Science Center (LANSCE). As part of my research this summer my goal was to accurately determine the neutron energy from neutron time-of-flight (nToF) by applying a gaussian fit to the photo-fission peak and extracting the mean distance between the spallation target and the fission target. After that, the data must also be corrected for wraparound, which happens when faster neutrons from previous pulses overlap with ones from the current pulse. I looked into a method that can be taken to correct it. A double exponential fit can be applied to the micropulse tail, and then a ratio of the counts above and below the fit can be taken to obtain the number of wraparound events per neutron energy bin. From here its just a matter of making a correction for the wraparound in the data. Analysis details and current results will be presented.

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