

Abstract Submitted
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Improved neutron time of flight apparatus ALEC RAYMOND,
JOHN ELLSWORTH, Physics and Astronomy, Brigham Young University — Time-of-flight (ToF) facilities are useful for determining the energy spectra of neutrons from nuclear reactions. The ToF apparatus at Brigham Young University is used to support laboratory nuclear astrophysics research; products of both fission and fusion reactions are of particular interest. Reported here are improvements made to our apparatus. In the past, the gamma start pulse was detected with a 5" x 5" NaI(Tl) scintillator with a 10 dynode PMT. The current start detector uses a 5" x 2" EJ-200 plastic scintillator with a 14 dynode PMT. The plastic detector has improved timing resolution over the NaI(Tl) detector. Future plans include replacing our sealed Cf-252 source with a Cf fission chamber. We're anticipating using this facility to improve understanding of the fission process.

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