

Abstract Submitted
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Development of Fast, Segmented Trigger Detector for Decay Studies MOHAMMAD ALSHUDIFAT, ROBERT GRZYWACZ, STAN PAULAUSKAS, University of Tennessee, Knoxville — Segmented scintillation detector was developed for decay studies. The detector is build with use of position sensitive photo-multiplier (PSPMT) Hamamatsu H8500 coupled with fast (16×16) pixelated plastic scintillator (Eljen EJ-204). The PSPMT anodes form a (8×8) two dimensional matrix which is used for position reconstruction, position resolution with average FWHM of $\sim 1.1mm$ was achieved with ^{137}Cs gamma-source. Signals derived from non-segmented dynode are used for timing. Digital pulse shape analysis algorithm was used for this analysis and the 500 ps timing resolution was achieved. This detector is intended to use in fragmentation type experiments which require segmented detectors in order to enable recoil-decay correlations for applications requiring good timing resolution, e.g. for the neutron time-of-flight experiments using VANDLE array.

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