

Abstract Submitted
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A Time-of-Flight System for Low Energy Charged Particles MICHEAL GIORDANO, KRYSTALYN SADWICK, KURT FLETCHER, STEPHEN PADALINO, SUNY Geneseo — A time-of-flight system has been developed to measure the energy of charged particles in the keV range. Positively charged ions passing through very thin carbon films mounted on grids generate secondary electrons. These electrons are accelerated by a -2000 V grid bias towards a grounded channeltron electron multiplier (CEM) which amplifies the signal. Two CEM detector assemblies are mounted 23.1 cm apart along the path of the ions. An ion generates a start signal by passing through the first CEM and a stop signal by passing through the second. The start and stop signals generate a time-of-flight spectrum via conventional electronics. Higher energy alpha particles from radioactive sources have been used to test the system. This time-of-flight system will be deployed to measure the energies of 15 to 30 keV ions produced by a duoplasmatron ion source that is used to characterize ICF detectors.

Kurt Fletcher
SUNY Geneseo

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