

Abstract Submitted
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Detection of Protons and Alpha Particles Using Charge Injection Devices (CIDs) KURTIS A. FLETCHER, BENJAMIN APKER, SAMANTHA HAMMOND, JOHN PUNARO, SUNY Geneseo, FREDERIC J. MARSHALL, ROBERT A. FORTIES, BENJAMIN L. SCHMITT, University of Rochester — CID cameras, used for x-ray imaging on the University of Rochester's OMEGA laser system, can also be used to detect charged particles, such as those emitted in fusion reactions. We have demonstrated that CID cameras can be used to detect alpha particles from a radioactive source, and that the flux of alpha particles is identical to that measured using a surface barrier detector. In a series of experiments using the SUNY Geneseo 2 MV Van de Graaff accelerator, we have also determined the efficiency for detection of ${}^2\text{H}(d,p){}^3\text{H}$ protons by simultaneously detecting protons with a surface barrier detector and a CID placed at identical angles in the scattering chamber. In all cases the careful selection of appropriate energy-degrading foils is necessary to maximize the charged particle signal in the CID. Future work will focus on tests of the system using inertial confinement fusion products at the OMEGA laser facility. (Supported in part by the US Department of Energy through the University of Rochester's Laboratory for Laser Energetics.)

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