

Abstract Submitted
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Dual-axis, Duo-lateral Position Sensitive Detectors ROBIN DIENHOFFER, SHERRY YENNELLO, Cyclotron Institute, Texas A&M University — Over the years, a variety of approaches have been used to determine the position of a particle measured by a silicon detector. Discrete detectors require many channels of electronics to achieve good position resolution. Another avenue is to use a resistive detector, which measures the position by charge splitting. Resistive tetra-lateral detectors can be used to achieve both horizontal and vertical position. However, these result in some distortion in the signal requiring a complex algorithm for correction. Our solution to this challenge was to work with Micron Semiconductor to develop a new, state of the art, detector- now known as the Dual-axis, Duo-lateral Position Sensitive Detector, or simply, a DADL PSD. With the DADL PSD, both sides of the detector are used to obtain the energy of incoming particles. Resistive Strips help to guide the charge produced by the incoming particles across the detector to the collecting edges to be used as signal. Guard rings are in place to minimize leakage current, thereby maximizing resolution. The DADL PSD has achieved both excellent position and energy resolution. Results from both source tests and online data will be presented.

Robin Dienhoffer
Cyclotron Institute, Texas A&M University

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