Contribution ID: **95** Type: **Contributed Talk**

Characterising a planar germanium strip detector for imaging applications

Wednesday 14 September 2005 09:45 (15 minutes)

An orthogonal strip
HPGe detector has been manufactured by Ortec. The dimensions of the crystal are 60 × 60 × 20 mm. The crystal is electrically divided into 12 strips of a 5 mm width on both sides of the detector. Combined with digital electronics and pulse shape analysis (PSA), the detector has the potential to reduce the position resolution to 1 mm3. The improvement of position resolution in depth is the major challenge in the characterization of the planar germanium detector.

Digital electronics provides the opportunity to utilize PSA on an event by event basis. The analysis involves two types of signal; real charge and image charge. Information about the depth of interaction can be gained from both signals. The analysis of the real charge correlates the risetime and the depth of interaction. The shape and amplitude of the image charges provides information about the depth and the transverse position in the strip. A depth measure using image charges has been developed and results will be presented.

Author: Mr TURK, Gerard (University of Liverpool)

Presenter: Mr TURK, Gerard (University of Liverpool)

Session Classification: S7 : Novel Photon Detection Systems

Track Classification: New Techniques for Positron Emission Tomography