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# PROPORTIONAL CROSSTALK MEASUREMENTS FOR A SEGMENTED CLOVER DETECTOR

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The segmented clover detector at iThemba LABS is of TIGRESS type. It consists of four germanium crystals, each segmented 8-fold, which results in 36 output signals. The detector has the capacity of measuring the position of the gamma-ray interactions inside its volume. However the increased complexity results in the need of a careful characterization of the detector. For instance due to the segmentation a single-hit energy deposition in one segment changes the energy readings on the other segments and leads to the registration of non-zero energy. This energy, called proportional crosstalk, needs to be measured and eliminated in order to avoid inaccurate energy reading.

To measure the proportional crosstalk the method described in [1] was applied. The crosstalk affecting the neighboring segments has a significant effect (up to 40 keV at 1.4 MeV). Crosstalk with small but not always negligible amplitude was observed on the segments from adjacent crystals. Crosstalk on the core of the crystals was also evaluated.

The crosstalk coefficients were measured and the recorded energies on the 36 output contacts of the segmented clover were successfully corrected. Results from the crosstalk correction will be presented and discussed.

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## REFERENCES

- [1] Bart Bruyneel, Peter Reiter, Andreas Wiens, Jürgen Eberth, Herbert Hess, Gheorghe Pascovici, Nigel Warr, Sezgin Aydin, Dino Bazacco, Francesco Recchia, Nucl. Instr. Meth. Phys. Res. A 608, 99 (2009).