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Characteristisation of a new multiple channel analyzer - linearity¹ ROZA AVETISYAN, ARMEN GYURJINYAN, Nuclear Science Laboratory, University of Notre Dame, Notre Dame, IN 46556; Alikhanyan National Laboratory, Yerevan 0036, Armenia, WANPENG TAN, ANI APRAHAMIAN, Nuclear Science Laboratory, University of Notre Dame, Notre Dame, IN 46556 — Due to the large difference in purchasing value of a new 32 channel Mesitec ADC and more traditional ADCs, we tested the non-linearity properties of a 32 channel ADC in order to determine its potential use with our Ge array of detectors (GEORGINA). We used a single 109% efficiency germanium (Ge) detector to obtain a γ -ray spectrum from a calibration source of 152Eu. We checked the linearity against voltage for 32 separate settings. With a linear fit, we get a non-linearity range of 0.6keV over 100-1400keV energy range. This non-linearity reduces to 0.1keV with a second order fit over the same range of energy. This level of non-linearity makes the module useful and usable for γ -ray spectroscopy.

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