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Kmax-based data acquisition system for HIγS[1] DANULA GODAGAMA, MICHAEL KOVASH, University of Kentucky — In 2018, the Compton program at HIγS deployed two large-volume NaI detectors named DIANA and BUNI. Both detectors have multiple NaI segments and are read by several photomultiplier tubes. Because of the complexity of these detectors and their ability to provide very high count rates, a dedicated data acquisition(DAQ) system was needed. The newly developed DAQ system features CAEN V1730 waveform digitizers. The signals are recorded with 500MHz sampling frequency, preserving the pulse shapes for offline analysis. The recorded data are accessed through the VME bus by a Struck SIS3153 VME controller and transferred to the computer through a USB 3.0 connection. The combination of VME64X and USB 3.0 interfaces provide effective data transfer rates as high as 150 MB/s. A Kmax based software was developed to oversee the whole DAQ process with a user-friendly graphical user interface. The DAQ software also includes state of the art features like real-time histograms and pulse plotting. We will discuss the development and current status of the new Kmax-based DAQ system.

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