

A portable readout system for Micro-pattern Gas detectors and Scintillation detectors

A system of readout electronics used in both Micro-pattern Gas detectors and Scintillator detectors is introduced in this report. The system is intended as a general purpose multi-channel readout solution for a wide range of detector types and detector complexities. A 32-channel charge sensitive ASIC VATA160 from IDEAS company is adopted in this method. With its features of low noise and large dynamic range, this system handles up to 128 electronic channels. With a integration time of 1.8 μ s, each channel's dynamic range is from -3pC to +13pC with a noise of better than 2.5fC and nonlinearity of better than 0.5%. As a portable system, it is able to generate trigger itself or get external trigger. This system transfers data to a PC host and gets controlled by PC via only one Universal Serial bus (USB).

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