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DRAD DAQ System

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Particle detectors systems need state of the art Data Acquisition Systems (DAQ) as backend. This paper presents a new DAQ that handle up to 4 hybrid detectors simultaneously, in a client-server data architecture, oriented to particle tracking experiments. The system is designed for the ROC4SENS read-out chip but is easily adaptable to other pixel detectors. The DAQ is based on a System-on-Module (SoM) that includes FPGA logic fabric and microprocessors. The client-server architecture is enabled by a Linux operating system. The full DAQ is very compact, reducing the hardware load typically needed in particle tracking experiment, specifically during the compulsory particle telescope characterization. The DAQ design comprises the design of the programmable logic, hardware, operating system, drivers and software.

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