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SOFTWARE PACKAGE FOR DATA COLLECTION USING CAEN BOARDS

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The results of the development of a DAQ (data acquisition) system for collecting and processing data from Flash ADC and TDC (time to digital converter) blocks by Caen are presented. A comparative analysis of the speed characteristics of data transmission over the Optical link and VMEbus bus of boards of different versions with different initial configurations of internal memory buffers, as well as by type of connection to a personal computer, was carried out. A variant of organizing data collection is shown, both in single block mode and in multiple connection mode via the Caen v2718-v3718 controller using an interrupt mechanism. The approach of client-server interaction between the main DAQ system and the remote user interface is described. A brief overview of intermediate data caching, methods and types of writing them to the main storage medium is given. A brief overview of the implemented functionality for processing accumulated spectra is given, including calibration tools, automatic detection of peaks in a given area and point-to-point spectrum investigation.

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