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Data acquisition system based on fast waveform digitizer for large neutrino detectors

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For large volume neutrino and antineutrino detectors it is crucial to have an efficient data acquisition system capable of digitizing data from thousands of detection channels. Here we present a flexible DAQ system architecture consisting of large number of fast waveform digitizers and configurable FPGA-based trigger logic. Current implementation of the system is functioning in the Borexino detector providing zero dead time spectroscopy data in energy range from 1 up to 100 MeV. Acquisition complex in combination with our custom analysis software is successfully being used for registration of geoneutrinos, as well as search for neutrino signal from GRBs, solar netrino spectroscopy and other aplications.

Presentation type

Section talk (10+5 min)

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