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Architecture Design of JUNO DAQ

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The Jiangmen Underground Neutrino Observatory (JUNO) aims to determine the neutrino mass ordering along with other purposes. There are about 20000 20'inch and 25000 3'inch PMTs in central and veto detects. The DAQ is required to readout about 40GB/s full waveform data from large PMTs with 1us sample window, 1GHz sample rate and 1kHz trigger rate. The small PMTs require only readout time and charge information by self-trigger. A new proposal to readout only the hit information of large PMTs with self-trigger at same time could be applied for supernova burst and multi-messages. And waveform need to be compressed for disk storage according to online event classification. This paper will introduce these requirements, solutions and architecture design of DAQ system.

Minioral

Yes

IEEE Member

Yes

Are you a student?

No

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