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Network-distributed Data Acquisition System for Photoproduction Experiments with LEPS2

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This paper presents the development and current status of the new data acquisition (DAQ) system of photoproduction experiments with the LEPS2 detector at SPring-8. The LEPS2 DAQ system is based on the network-distributed DAQ-middleware framework, which includes gatherers collecting data from detector sub-systems, mergers integrating data from gatherers, event builder and logger writing data on files in the data acquisition software. The 10K TPC pad signals are fed up to 16 channels FADC boards and transferred through the SpaceWire protocol to DAQ software components. We have successfully commissioned the DAQ system of the LEPS2 detector comprising a time projection chamber (TPC), drift chambers, resistive plate chambers, Pb/scintillator sampling calorimeters, and neutron counters. The LEPS2 DAQ system reads approximately 10K channels from TPC and 5K channels from other detector components at 100-200 Hz trigger rate and 40 MB/s event size.

Minioral

No

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