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Streaming Mode Data Acquisition at Jefferson Lab

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Over the last decade advances in electronics, computing, and software have changed the assumptions upon which data acquisition system designs for nuclear physics experiments are based. This is true at Jefferson Lab as well as at other laboratories. Looking forward to future experiments that are in various stages of planning we must reevaluate the near- and long-term course that the development of readout systems for Jefferson Lab experiments will take. One technique that is growing in favor in the data acquisition community is streaming mode readout, whereby detectors are continuously read out in parallel streams of data. The goal of this document is to discuss the advantages and disadvantages of streaming mode readout in the context of Jefferson Lab experiments and make comparisons to the status quo pipelined trigger mode. Additionally, this document will define streaming mode terminology and discuss use cases.

Minioral

Yes

IEEE Member

Yes

Are you a student?

No

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