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Trigger and Data Acquisition for the Mu2e-II experiment

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The Mu2e experiment at Fermilab will search for the charged-lepton flavor violating (CLFV) neutrino-less conversion of a negative muon into an electron in the field of a nucleus. Mu2e-II, a proposed upgrade of Mu2e, aims to improve the expected sensitivity by at least an order of magnitude. This upgrade will require a similar increase in the data rate and the radiation tolerance of the front end electronics. In this talk we will discuss the requirements for the Mu2e-II TDAQ and several conceptual ideas for upgrading the Mu2e system based on software triggers, GPU co-processors, or FPGA pre-processing.

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