

Slow control and data acquisition software interfaces in the Mu2e experiment

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The muon campus program at Fermilab includes the Mu2e experiment that will search for a charged-lepton flavor violating processes where a negative muon converts into an electron in the field of an aluminum nucleus, improving by four orders of magnitude the search sensitivity reached so far.

Mu2e's Trigger and Data Acquisition System (TDAQ) uses `itsdaq` as its solution. Developed at Fermilab, `itsdaq` uses the `artdaq` DAQ framework and `art` analysis framework, under-the-hood, for event transfer, filtering, and processing.

`itsdaq` is an online DAQ software suite with a focus on flexibility and scalability, while providing a multi-user, web-based, interface accessible through a web browser.

A Detector Control System (DCS) for monitoring, controlling, alarming, and archiving has been developed using the Experimental Physics and Industrial Control System (EPICS) open source Platform. The DCS System has also been integrated into `itsdaq`, providing a GUI multi-user, web-based control, and monitoring dashboard.

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Primary authors: GIOIOSA, Antonio (Università & INFN Pisa); BONVENTRE, Richard (Lawrence Berkeley National Laboratory); DONATI, Simone (University of Pisa and Istituto Nazionale di Fisica Nucleare); FLUMERFELT, Eric (Fermi National Accelerator Laboratory); HORTON-SMITH, Glenn (Kansas State University); MORESCALCHI, Luca (INFN - Pisa); O'DELL, Vivian; PEDRESCHI, Elena (Università & INFN Pisa (IT)); PEZZULLO, Gianantonio (Yale University); SPINELLA, Franco (Università & INFN Pisa (IT)); UPLEGGER, Lorenzo (Fermilab); RIVERA, Ryan Allen (Fermi National Accelerator Lab. (US))

Presenter: GIOIOSA, Antonio (Università & INFN Pisa)

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