

# LXI INSTRUMENTATION, WITH EPICS IOCS, FOR REMOTE WAVEFORM MONITORING & ANALYSIS

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## Abstract

Off-the-shelf instruments based on the LAN eXtensions for Instrumentation standard (LXI) and with embedded EPICS input/output controllers (IOCs) are an ideal solution for many particle accelerator applications. These applications require responsive remote control and real-time waveform monitoring for critical accelerator systems. These instruments typically have the same feature sets and powerful analysis capabilities that today's high-end benchtop instruments have. With an embedded EPICS controller, the instruments easily integrate into the EPICS environment without the need for EPICS drivers or external controllers. LXI oscilloscopes and digitizers can perform advanced real-time waveform math and analysis using on-board FPGAs and DSP. The paper will detail an application at Oak Ridge's Spallation Neutron Source (SNS). At SNS, LXI EPICS oscilloscopes are being evaluated for waveform monitoring in injection and extraction kicker systems to perform real-time mask testing on the acquired waveforms.

**CONTRIBUTION NOT  
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