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The SLAC Instrumentation and Control Platform

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The SLAC Technology Innovation Directorate has developed a new electronics platform for instrumentation and control of particle accelerators and experiments. This "Common Platform" system is based on the Advanced Telecommunication Computing Architecture , and uses the ATCA shelf backplane for data, management, precision timing and machine interlocking. Local interface and data processing is provided by FPGAs on each ATCA card, each interfaced to ADCs, DACs, network and front end electronics. This "Common Platform" will be used as the primary accelerator control and instrumentation system for future SLAC accelerators including LCLS-II X-ray FEL, as well as for many experiment sub-systems. It is also being developed for use for superconducting sensors for a CMB telescope and a variety of other projects.

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