HARDWARE AND SOFTWARE DEVELOPMENTS FOR THE ACCURATE TIME-LINKED DATA ACQUISITION SYSTEM[*]

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Abstract

Wind-energy researchers at Sandia National Laboratories have developed a new, light-weight, modular data acquisition system capable of acquiring long-term, continuous, multi-channel time-series data from operating wind-turbines. New hardware features have been added to this system to make it more flexible and permit programming via telemetry. User-friendly Windows-based software has been developed for programming the hardware and acquiring, storing, analyzing, and archiving the data. This paper briefly reviews the major components of the system, summarizes the recent hardware enhancements and operating experiences, and discusses the features and capabilities of the software programs that have been developed.