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## eLog Analysis for Accelerators: Status and Future Outlook

This work presents a systematic analysis of electronic logbook (eLog) systems and their analytical capabilities at the accelerator facilities of DESY and Lawrence Berkeley National Laboratory (LBNL). We evaluate contemporary tools and methodologies for enhanced information retrieval, focusing on extracting operational insights from eLog entries through state-of-the-art natural language processing approaches and the integration of structured data with existing accelerator control systems.

The study examines current challenges in eLog analysis through practical implementations at both institutes, demonstrating applications and limitations while proposing architectural modifications to prepare facilities for seamless integration of eLog systems into modern AI-driven operational pipelines. We investigate recent advancements in data accessibility and knowledge extraction methodologies at these facilities, systematically identifying areas that require further enhancement.

Based on our findings, we outline potential developments in analytical capabilities, providing a technical framework for future eLog system improvements and integration strategies.

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