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Development of High Voltage Power Supply Controls for the STAR Experiment at RHIC SAMUEL RUIZ, JIRO FUJITA, Creighton University — The STAR (Solenoidal Tracker at RHIC) experiment at RHIC (Relativistic Heavy Ion Collider) at Brookhaven National Laboratory studies the collisions of various ion species. The large number of channels to be controlled and monitored require an experiment-wide control system for efficient operation. Additionally, the radiation levels require that the user interfaces of the system are located outside the experimental hall. Each sub-detector system at STAR is controlled by software input/output controllers (IOCs). Aging high voltages systems at STAR are being replaced or are having their software updated to run on new processors. The outdated high voltage controls systems occasionally malfunction or require frequent rebooting of the remote hardware. This project aims to design and implement more effective controls software for the Beam-Beam Counter and the Zero Degree Calorimeter high voltage systems in order to mitigate this problem. This work will also be applicable to other subsystems with similar hardware issues.

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