

# DEAP-3600: Hardware Upgrades and 'Flasher' event Analysis

*Tuesday, August 20, 2024 9:05 AM (10 minutes)*

The DEAP-3600 experiment employs a vessel filled with liquid argon to detect dark matter. When argon atoms are excited by particle interactions, they emit ultraviolet light, which is subsequently detected by an array of sensors surrounding the vessel. This emitted light is analyzed to identify the nature of the interactions. During this summer, I had the opportunity to work on hardware upgrades for the detector, which are aimed at further reducing background events. This experience allowed me to gain an understanding of the detector's hardware components and to assist in the installation of several key components. Following this hands-on work, I analyzed a subset of the data collected by the detector during runs in which the vessel is under vacuum. Utilizing visualization software, I conducted a detailed inspection of events in these runs, manually categorizing them, and specifically searching for events known as "flashers". This experience provided valuable insights into both the hardware and data analysis aspects of the experiment.

## What area of study best describes your talk?

Physics

## If you answered 'Other', please provide the study area.

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**Session Classification:** Presentations