

Luminescence Testing of Materials in the Scintillating Bubble Chamber Experiment

Monday, August 19, 2024 4:05 PM (10 minutes)

The Scintillating Bubble Chamber (SBC), a dark matter direct-detection experiment, aims to detect bubbles produced in a superheated liquid target. To achieve this, the chamber is monitored by cameras and illuminated by flashing LEDs. Outside the target volume, silicon photo-multipliers (SiPMs) capture scintillation light which can be used to identify non-dark matter interactions. The SiPMs, however, are also sensitive to the LED light. This presentation describes the LED light response of various materials used in the SBC volume, allowing us to estimate the scintillation detection uptime while the LEDs are flashing: an important result for the operation strategy of SBC.

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