

## Design, Development and Characterization of Liquid Organic Scintillation Detector

*Friday 13 December 2024 16:24 (17 minutes)*

We propose an experiment focused on designing and developing a liquid organic scintillation detector, along with its characterization using a photomultiplier tube for scintillation counting and high-energy particle detection. The experiment aims to optimize conditions for long-term stability, low background noise, high gain, and a high signal-to-noise ratio. We will also examine the system's energy resolution, pulse response time, and plateau characteristics. Additionally, the experiment will assess environmental radiation levels and calibrate the gamma-ray photopeak based on the material used.

Keywords- Nuclear Instrumentation, PMT, Scintillating Material

**Author:** SAINI, Sunil Kumar (CENTRAL UNIVERSITY OF SOUTH BIHAR)

**Co-authors:** Dr SINGH, Lakhwinder (Central University of South Bihar, Gaya, India); Prof. SINGH, Venkatesh (Central University of South Bihar Gaya (India))

**Presenter:** SAINI, Sunil Kumar (CENTRAL UNIVERSITY OF SOUTH BIHAR)

**Session Classification:** Parallel Session