

The ABALONE Photodetector

Cecilia Ferrari, Riccardo Biondi, Valerio D'Andrea, Alfredo D. Ferella, Joern Mahlstedt, Giulia Pieramico

The ABALONE is a new type of photosensor produced by PhotonLab with cost effective mass production, **robustness** and **high performance**. This modern technology provides sensitivity to visible and UV light, exceptional radio-purity and excellent detection performance in terms of intrinsic gain, afterpulsing rate, timing resolution and single-photon sensitivity. This new hybrid photosensor, that works as light intensifier, is based on the **acceleration in vacuum of photoelectrons** generated in a traditional photocathode and guided towards a window of scintillating material that can be read from the outside through a Silicon PhotoMultiplier (SiPM). In this contribution we present the extensive characterization of the ABALONE as a possible photosensor for future astroparticle physics experiments.

