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HIGH ENERGY PHYSICS

Understanding how our universe works at its most fundamental level.

High energy physics (HEP) is searching for the fundamental constituents of the matter which are formed by various subatomic particles and their interaction. Both are typically studied in huge particle collider experiments. The most famous example is the "Large Hadron Collider (LHC)" at CERN. The by-products of the high energy particle collision are tracked, analyzed and verified in huge detector systems. The various detector subsystems are using in many cases a scintillator in combination with a low level light sensor as the smallest sensitive unit.

KETEK's SiPM products are perfectly suitable for this application: Above the main sensor features which are given by a very high photon detection efficiency in combination with a very fast signal response with low time jitter, the extremely low temperature coefficient helps to avoid precise and with it costly temperature control of the sensor. Furthermore the KETEK SiPM products require only low operation voltage and are completely insensitive to high magnetic fields as they are typically present in many HEP detector systems.

KEY FEATURES

- Insensitive to magnetic fields
- Low temperature coefficient
- High PDE
- Very fast response
- Easy coupling to the scintillator
- Low bias voltage
- Simplified electronics
- Enables long distance to preamp
- Tileable
- Miniaturized
- No damaging by strong light and fast recovery

APPLICATIONS

- Calorimeter
- Trigger Detectors
- Cherenkov Telescope
- Neutron Detection