Contribution ID: **7** Type: **not specified**

Recent developments in the field of scintillator for fast radiation detectors

Saturday 4 June 2022 08:30 (15 minutes)

Since many decades scintillating crystals have been used for radiation detectors such as high resolution electromagnetic calorimeters and positron emission tomographs. Significant progress has been made in the field of inorganic scintillators in the understanding of their scintillation properties, radiation hardness and production methods over the last 30 years. In addition many applications also have more and more need for an improved timing resolution. To this purpose many studies have been carried out in the framework of the Crystal Clear Collaboration on the investigation, improvement and exploitation of different processes for new fast light emission such as wideband semiconductor nanomaterials, hot intraband luminescence, cross luminescence and Cerenkov light, as well as on the production and the assembly of such material: crystal fibers, 3D printing, hybrid structure combining materials with different properties.
In this contribution, a review of recent research efforts and developments on fast timing scintilllators for future detectors will be presented.

Author: AUFFRAY HILLEMANNS, Etiennette (CERN)

Presenter: AUFFRAY HILLEMANNS, Etiennette (CERN)

Session Classification: Technologies for ≤100ps TOFPET resolution: Scintillators

Track Classification: Technologies: Scintillators