

FLUORAL

CeBr₃ Windowless Digital Si-PM Detector



The first Windowless Si-PM direct coupling with fast hygroscopic scintillators

Highly hygroscopic materials like LaBr₃:Ce or CeBr₃, have the best light output in the market (>60.000 ph/MeV) and are among the fastest scintillator known. But usually they are used with outdated PMT with a glass window that deteriorates some of their properties.



Damavan Imaging has developed a new patented technology for windowless encapsulation of Si-PM.

We propose a first version with Phillips DPC 3200 digital Si-PM.

Coupled with Temporal δ electronic kit, this detector allows PET or SPECT imaging.

For Compton imaging a special design is required.

On request design possible

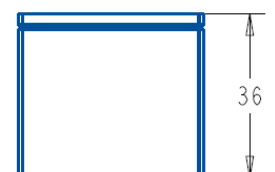
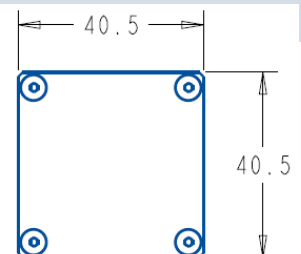
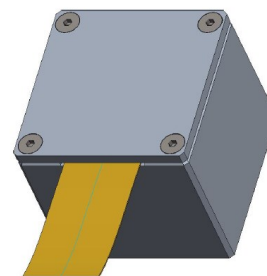
Temporal imager CeBr₃ detector - Fluoral technology

- Monolithic CeBr₃ crystal 31x31 mm with a diffusive reflecting media
- Thickness on request (standard : 5mm ; 12mm ; 20mm)
- Si-PM tile Phillips DPC 3200 sensor
- Connexion through a 450 mm flex connector
- Detector calibrated in timing and energy for 5°C
- Recommended temperature of acquisition 5°C +/- 5°C
- Can be sold with a Peltier cooling kit.

Dimensional drawing

DIGITAL Si-PM Philips DPC 3200

CeBr₃ Detector Aluminium 6060 T5



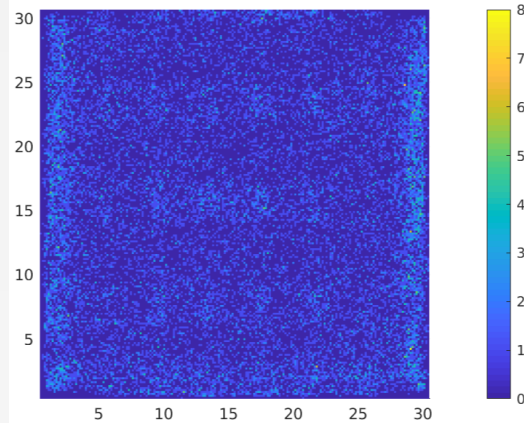
Fluoral technology is a patented encapsulation concept for hygroscopic detectors ^[1]

[1] Patent FR 1659397

The CeBr₃ Detector



Flood image 511keV



Flood image 511keV

Highlights

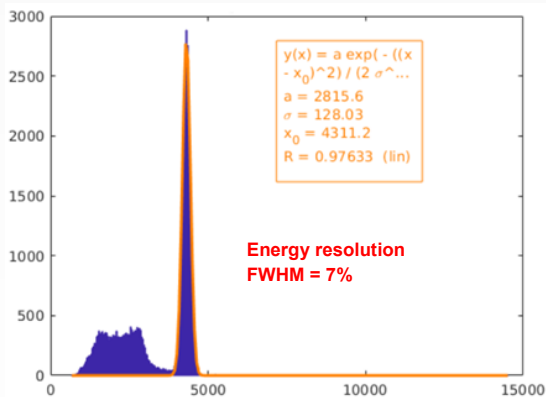
Damavan imaging was founded in December 2014 in Troyes (F) as a SAS (Société par Action - Simplified joint stock company).

In July 2015, Damavan has won a 4 years research grant from «Investissements d'avenir»: Investments for the Future Programme conducted by ANDRA, "Temporal" to develop a Compton camera based on temporal imagers.

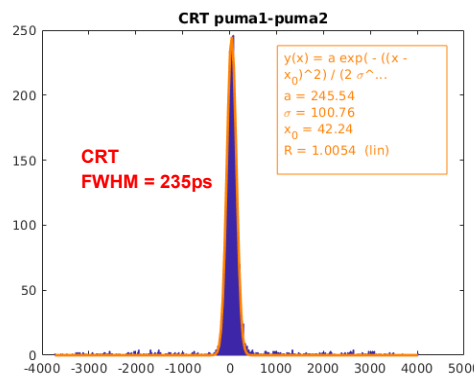
In October 2016 Damavan is issuing the first temporal imager: Temporal δ

Photopeak & Energy Resolution

Spatial resolution	1.5*1.5*4mm for 12mm crystal
Nb of photons @ 511 KeV Peak	4000 - 4500
Energy resolution @ 511 KeV	7%
Energy resolution @ 622 KeV	6.3%
Time resolution @511 KeV	235ps



Energy spectrum



Time spectrum

Contact us for further information

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