



Contribution ID: 170

Type: Poster

P2.35: Preclinical PET scanner with timing and 3D positioning capabilities based on semi-monolithic crystals

Wednesday, 28 June 2023 17:15 (1 minute)

Semi-monolithic crystals have the potential of combining the timing capabilities of pixelated crystals and the 3D positioning of monolithic crystals. These crystals are monolithic blocks segmented in one direction, in pieces named slabs. If these slabs are optically isolated, the scintillation light spreads among a reduced number of photodetectors, increasing the number of optical photons that reach each photodetector, which improves the timing capabilities. In the monolithic direction, the Light Distribution can be characterized and, thus, the Depth of Interaction information can be retrieved, while preserving the sensitivity and good spatial resolution of monolithic detectors. We present here a prototype of a small-animal PET based on 28 semi-monolithic detector modules arranged in two rings of 106 mm inner diameter and covering an axial length of 52 mm.

Primary author: CUCARELLA, Neus

Co-authors: GONZALEZ, Anonio J.; CORRECHER, Carlos; BARRIO, John; BENLLOCH, Jose M.; FREIRE, Marta; BRUYNDONCKX, Peter

Presenter: BENLLOCH, Jose M.

Session Classification: Poster (incl. coffee)