AX-PET - A Demonstrator for an Axial PET Camera with WLS Strips and G-APD Readout

The image shows the reconstruction of different sections of a NEMA-IQ-Mouse-Phantom (see PetPhantoms). Data taken in measurement campaign during July 2011 at AAA (Saint Genis Pouilly, France).

The AX-PET collaboration: Bari, Cagliari, CERN, Michigan, Ohio, Oslo, Tampere, Valencia, Zurich

What's special about AX-PET?

AX-PET is a novel PET detector based on long axially arranged crystals and orthogonal Wavelength shifter (WLS) strips, both individually readout by Geiger-mode Avalanche Photo Diodes (G-APD, also called SiPM). Its design was conceived to reduce the parallax error and simultaneously improve spatial resolution and sensitivity. A 'Demonstrator' has been built which consists of 2 detector modules (in total 96 LYSO crystals and 312 WLS strips). After extensive tests in the lab with Na-22 point sources, the Demonstrator was characterized with phantoms at the small animal PET lab at ETH Zurich (link) and the company AAA in France. Recently, in spring 2012, we successfully demonstrated imaging with F-18 and FDG of mice and rats.

For more information about the AX-PET project, please contact Christian Joram (remove SPAMNOT from address)

- AX-PET meetings - Link to the Indico server (restricted access)
- CrystalsDetectors - Crystals, WLS strips and Photodetectors (incl. "DSiPM")
- ElectronicsDAQ - Readout electronics, Trigger and DAQ
- PetPhantoms - Drawnigs and photos of used phantoms
- PetAnalysis - Description of analysis tools and codes (restricted access)
- SoftwareTools - Simulation and Reconstruction (restricted access)
- PetDoc - A selection of documents on the AX-PET project
- PetConf - Conference contributions and upcoming conferences
- ProjPlan - Project Planning
- PetCampaigns - Measurement campaigns with the AX-PET demonstrator (restricted access)
- PetColl - AX-PET collaboration (password protected)
• PetPics - A selection of pictures of the tests at ETH

**AX-PET email lists:**

• all members: mailto:axialpet@cernNOSPAMPLEASE.ch (remove SPAMNOT)
• collaboration board members: mailto:axialpet-cb@cernNOSPAMPLEASE.ch (remove SPAMNOT)

![Image of AX-PET equipment]

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