

WaveCatcher and SAMPIC International Workshop



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Use of SAMPIC for PET development at IRFU

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CaLIPSO group at IRFU investigates the feasibility to use the Cherenkov radiation to enhance the TOF performance of the PET scanners.

Two projects are under development. CaLIPSO project investigates the possibility to build the brain and pre-clinical PET device with a high spatial resolution of the order of 1 mm³.

It uses an innovative liquid, TriMethyl Bismuth, as the photon conversions media and the Cherenkov radiator. The second project, PECHE, develops the full body PET scanner with the enhanced TOF resolution and uses as a

Cherenkov radiator the crystalline lead fluoride.

In both project we are using the micro-channel-plate PMT read-out with the SAMPIC module to detect the Cherenkov photons.

We present the experimental results on the time resolution using the 511 keV photon from ²²Na radioactive source.

We also report the details of the MCP-PMT time calibration and signal treatment with SAMPIC module.

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