

## Performance Study of Silicon Photomultipliers as Photon Detector for PET

The use of Silicon Photomultipliers (SiPMs) as photon detectors in Positron Emission Tomography (PET) modules offers significant advantages over conventional light sensors, including application in a magnetic field, better resolution and easier operation. Different types of SiPMs have been tested: Photonique,  $2.1 \times 2.1$  mm<sup>2</sup>, Hamamatsu  $3 \times 3$  mm<sup>2</sup> and STMicroelectronics  $3.5 \times 3.5$  mm<sup>2</sup>. Dark noise, surface sensitivity, photon detection efficiency and linearity at low light intensities have been measured. A LYSO crystal was coupled to a SiPM to test the performance as a photon detector for PET. We will present the results of the measurements for different samples and types.

**Summary (Additional text describing your work. Can be pasted here or give an URL to a PDF document):**

[http://www-f9.ijs.si/~ruben/vci/pet\\_sipm\\_summary\\_rv.pdf](http://www-f9.ijs.si/~ruben/vci/pet_sipm_summary_rv.pdf)

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