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Date inhabituelle

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**« Development of SiPM array based compact small field of view
gamma and PET imagers for intraoperative uses »**

We are developing several very compact SiPM based imagers for potential applications from diagnostics to surgery. Examples are prostate PET probe for cancer diagnostics and biopsy/surgery guidance, hand-held round imaging probe for melanoma surgery, and hand-held PET probes, imaging and non-imaging, both for positron detection and for detection of annihilation gammas when operating in coincidence with other detector modules. The probes are designed to have high 2D spatial resolution approaching 1mm but also to be able to achieve good depth of interaction (DOI) performance (1-1.5mm) for PET applications.

Other applications of this imaging technology include wearable PET brain imager (WO-MAN-CAP) in MRI partially-compatible version which is under construction and a planned PET brain imager in fully MRI compatible version. A small animal rodent size PET/MRI imager is also going to be built using the same technology.

Results of laboratory tests on several types of prototype structures relevant to intraoperative probes using Hamamatsu and SensL SiPMs will be shown, both for single gamma and PET applications.

Salle 101 - LAL Bât.200, Orsay

Organisation : Nicolas Leroy (LAL), Marie-Alix Duval (IMNC)