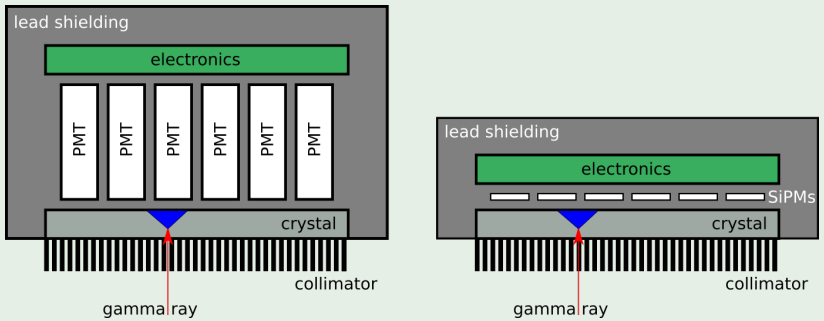
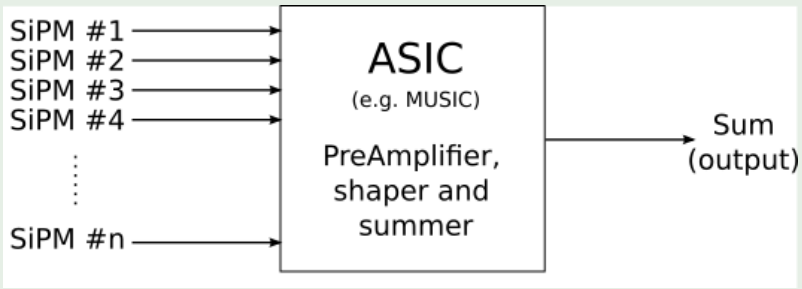
Large-Area SiPM Pixels (LASiPs) in SPECT

- **Weight and size of a gamma camera for full-body Single Photon Emission Computed Tomography (SPECT)** could be **significantly reduced** using **silicon photomultipliers (SiPMs)** instead of photomultiplier tubes (PMTs).content...



- Few thousands channels needed to fill a camera with SiPMs due to their limited area
- Solution: **Large-Area SiPM Pixels (LASiPs)** which are built by **summing individual currents of several SiPMs** into a single output.



Feasibility of using LASiPs in SPECT

- We built a **proof-of-concept SPECT micro-camera** for lab measurements
- We used those measurements to **validate Geant4 simulations of the system**
- We extended the **simulations to a full-body SPECT camera** and evaluated the **impact of LASiP size** (number of SiPMs summed) and **noise** in its performance.

Check details and results on our poster!