

Integrated Circuit Design for Time-of-Flight PET with Silicon Photomultiplier

Tuesday, 19 February 2013 16:00 (20 minutes)

The high gain and fast rise time of compact Silicon Photomultiplier matrices paved the way for the development of instrumentation with very stringent timing requirements, such as Time-of-Flight PET. Fast, low-noise and low-power integrated front-end electronics is a key factor to achieve the envisaged time resolution. We discuss methods and circuit topologies that target this performance, implemented in customized ASICs for SiPM readout.

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Session Classification: CMOS Sensors and Electronics