



Contribution ID: 16

Type: **not specified**

Interface circuits for single-photon detection

Tuesday, 27 April 2021 15:00 (45 minutes)

Single photons are the ultimate detection limit for electromagnetic radiation. By sensing individual photons, their energy and polarization, we know all aspects of the incident radiation. In basic sciences, single photons are at the experimental foundations of quantum mechanics and measurement theory. In applied sciences, single-photon detection and photon counting is employed in high energy physics, positron emission tomography, light detection and ranging, fluorescence lifetime imaging microscopy, quantum communications, etc. In this lecture we will review the basics of single-photon sensing with CMOS-compatible SPADs, the different types of quenching and recharge schemes, time-to-digital converters, SPAD arrays and SiPM-based pixels.

Presenter: Dr CARMONA, R.

Session Classification: Part 2: Solid state detector technologies