Contribution ID: **104** Type: **not specified**

Review on depleted CMOS

Monolithic active pixel sensors (MAPS) integrate both sensor matrix and readout circuitry in one piece of silicon. Pixel sensors in commercial CMOS technologies receive increasing interest for vertex detectors. They have advantages in detector assembly, production cost, and other benefits like lower material and higher granularity. Used for the first time in the STAR experiment, adopted for the ALICE experiment, they are being considered for future detectors, like the ATLAS HL-LHC upgrade, FCC and CLIC. The most aggressive applications require full depletion in the sensing volume where charge collection by drift improves timing and radiation tolerance to high-intensity hadron fluences. This talk addresses the improvements and challenges of depleted CMOS with insights on sensor and circuit design.

Primary author: KUGATHASAN, Thanushan (CERN)

Presenter: KUGATHASAN, Thanushan (CERN)