

Cinzia DaVia

3D active edge silicon sensor test results.

Active edge 3D sensors, with p and n type electrodes penetrating through the silicon bulk, have been fabricated with different inter-electrode spacing at Stanford University, USA. Their response to charged particles and x-rays has been studied using radioactive sources and particle beams with LHC-compatible readout electronics. The 3D fast time response using 0.13 μm readout electronics and their signal efficiency after an exposure to reactor neutrons equivalent to $\sim 1.4 \times 10^{16}$ high energy protons per sq. cm. will be discussed. This exposure is a bit more than the amount expected at the SLHC in 7 years at a radius of 4 cm. Some applications will be reviewed.