**ePIC SVT sensor development**

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The ePIC Silicon Vertex Tracker (SVT) detector will be based on a new generation Monolithic Active Pixel Sensors (MAPS) fabricated in a commercial 65-nm CMOS imaging sensor technology. This technology is at its first use for charged particle tracking and its suitability for this task had to be demonstrated.

Work on the characterisation of initial test structures has been carried out in partnership with the ALICE ITS3 group that leads the development of this technology. In particular, the Analogue Pixel Test Structure (APTS) sensor had been designed to study the charge collection properties of the technology.

The APTS sensors exist in 3 flavors: standard process, modified process with blanket additional deep implant (B) and modified process with gap in the additional implant (P). Each flavor has various pixel pitches (ranging from 10 to 25 um) and comes in 4 different process splits. Characterisation and comparison of the performance of the different APTS variants was carried out by UK institutes by means of an Fe-55 source. This talk will present the results of this characterisation and the comparison of different process splits through features of recorded spectra, cluster size and leakage current. This work contributed to the validation of the technology for use as charged particle trackers.