Contribution ID: **2** Type: **not specified**

Capacitively Coupled Hybrid Pixel Assemblies for the CLIC Vertex Detector

Tuesday, 17 February 2015 16:20 (20 minutes)

HV-CMOS devices are currently under investigation for use in the upgrade of current collider experiments and for future accelerators. The CLIC detector requires a vertex detector with minimal material content and high spatial resolution, combined with accurate time stamping to cope with the high rate of beam-induced backgrounds. One of the current options being pursued is the use of HV-CMOS devices as active sensors, capacitively coupled to hybrid pixel ASICs. A prototype of such an assembly, using two custom designed chips (CCPDv3 as active sensor glued to a CLICpix readout chip), has been characterised extensively both in the lab and in beam tests. The use of both single and dual amplification stages implemented in the HV-CMOS is shown, along with detailed measurements of the tracking performance, taken in the SPS beam in late 2014. Pixel cross-coupling results will also be presented, showing the sensitivity to placement precision and planarity of the glue layer.

Primary author: Dr HYNDS, Daniel (CERN)

Presenter: Dr HYNDS, Daniel (CERN)

Session Classification: HV CMOS (2) and LGAD (1)