



Contribution ID: 32

Type: Talk (invited speaker only)

## [C08] MuPix10: First Results from the Final Design

*Wednesday 7 October 2020 23:30 (29 minutes)*

Many years of research and development of High Voltage Monolithic Active Pixel Sensors (HVMAPS) have culminated in the final design for the Mu3e pixel detector.

MuPix10 is a fully monolithic sensor with an active pixel matrix size of  $20 \times 20 \text{ mm}^2$  produced in the 180nm HV-CMOS process at TSI Semiconductors. The pixel size is  $80 \times 80 \mu\text{m}^2$ . Hits are read out using a column drain architecture and sent over up to four serial links with up to 1.6Gbit/s each.

By means of DC/DC converters and exclusive usage of on-chip biasing, MuPix10 is fully operable with a minimal set of electrical connections. This is an integral requirement by the Mu3e experiment since it enables the construction of ultra-thin pixel modules with 1 permil radiation length per layer. In this talk first results from lab characterisation and testbeam campaigns are presented.

**Presenter:** AUGUSTIN, Heiko Christian (Ruprecht Karls Universitaet Heidelberg (DE))

**Session Classification:** Monolithic II