

Development of a Beam Profile Monitor based on Silicon Strip Sensors for Low-Charge Electron Beams at ARES

STRIDENAS - a Silicon Strip Detector for Novel Accelerators at SINBAD

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DESY Collaboration (MPY-1 and FH-ATLAS)



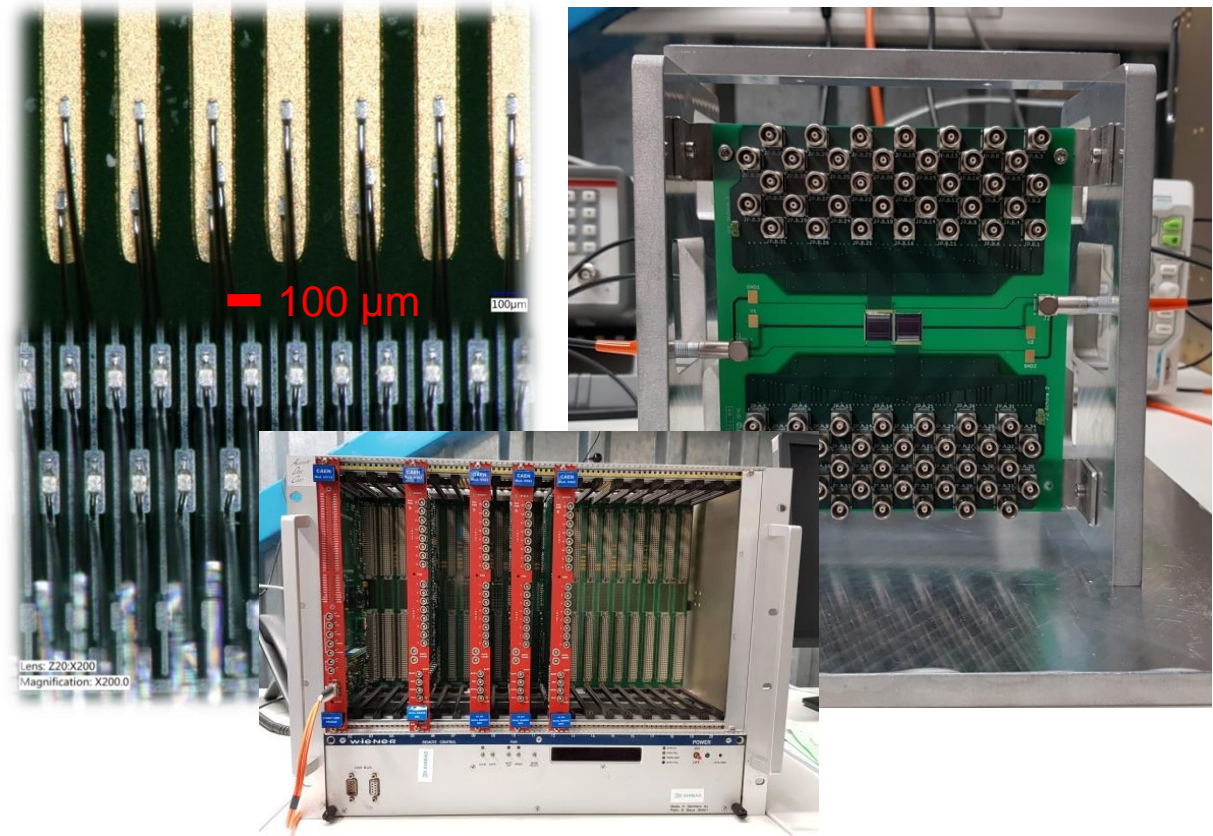
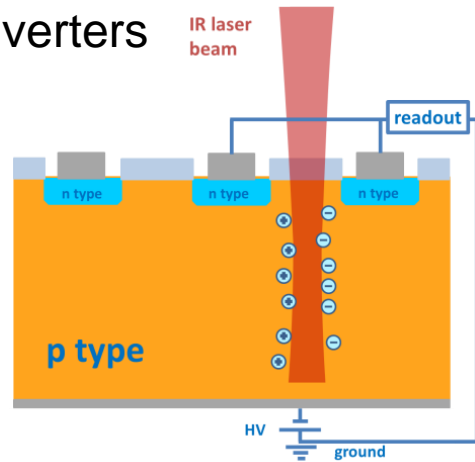
STRIDENAS

Components

- PCB with 64 readout channels
- Sensors glued and bonded to PCB
- CAEN charge-to-digital converters

Transient-current technique measurements

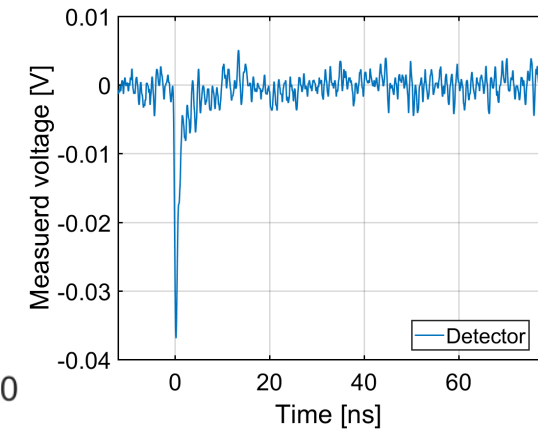
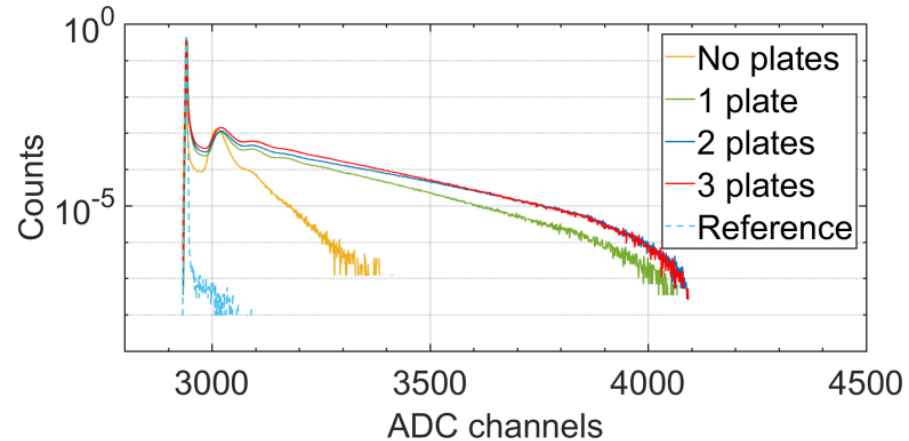
- Investigate transverse signal spread



STRIDENAS prototype characterization

with beam 

- Readout electronics tests with PMT signal
- Sensor tests with amplifier



Summary

- ✓ Successfully detected single electrons
- ✓ Successful sensor tests with a high electron intensity simulated with laser beam
- ✓ Readout electronics tested successfully for high intensities with signals from photomultipliers
- ✓ Amplifier needed to reduce noise introduced by meter long cables

