WP6 CMOS Meeting

Paul and Sebastian

This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement no. 654168.

WP Milestones

- MS7: Simulation workshop on HV/HR-CMOS TCAD and Geant4 simulations
  - ACHIEVED
- MS11: Multi Project Wafer Run (MPWR) submission
  - ACHIEVED
- MS26: First test beam campaign with initial sensor prototype assemblies
  - ACHIEVED
- MS27: First irradiation campaign with sensor prototype assemblies
  - ACHIEVED
- D6.5: Optimised interconnection process
  - ACHIEVED
- MS28: First functional HV/HR-CMOS assembly with capacitive interconnection
  - ACHIEVED
- MS48: Simulation tutorial on HV/HR-CMOS TCAD on Geant4 simulations
  - ACHIEVED

WP Deliverables

- **D6.1: TCAD libraries (M40) -- Achieved**
  - *Extract performance parameters (depletion depth, charge-collection efficiency, timing, etc.)*
- **D6.2: Sensor-design guidelines (M46) -- Achieved**
- **D6.3: Performance characterisation results (M58) – TO DO**
  - *Report on performance characterisation of test structures and sensors, including electrical, laser, source and test-beam measurements*
- **D6.4: Radiation tolerance assessment (M58) – TO DO**
  - *Report on measured radiation tolerance of optimised test structures and sensors*
- **D6.5: Optimised interconnection process (M42) – Achieved**
  - *Basic R&D with different adhesives, dispensing and curing methods on electrical test structures to achieve precise alignment, high and uniform capacitance and sufficient yield and reproducibility. Mechanical and electrical characterisation of the glued assemblies*
- **D6.6: Assemblies delivered (M40) – Acheived**
  - Use the sensors produced in Task 6.3 (Sensor development) to produce assemblies of sensors and readout ASICs for all participating projects. Mount assemblies on test boards provided by the participating projects. Make wire-bond connections between chips and PCBs.
- **D6.7: Recommendation for industrialisation (M46) -- Achieved.**
  - Investigate options for hybridisation of large-area assemblies. Adapt the interconnection technology for larger surface areas and make it suitable for mass production with high yield. Investigate wafer-to-wafer bonding options. Select industrial partners for initial tests.
- **D6.8: Final report (M58) – TO DO**

Publications

Publications Reminder:

- **All publications within the AIDA 2020 scope should cite AIDA.**
- **The WP6 group needs to produce a list of all these publications:**
  - **Please contact Sebastian or Paul with details.**

Talks Today

Todays Talks:

- **Introduction: Paul**
- **Update's from:**
  - **Birmingham: Ioannis Kopsalis**
  - **CPPM: Patrick Breugnon**
  - **IFAE: Sebastian**