Status of the pixel beam test

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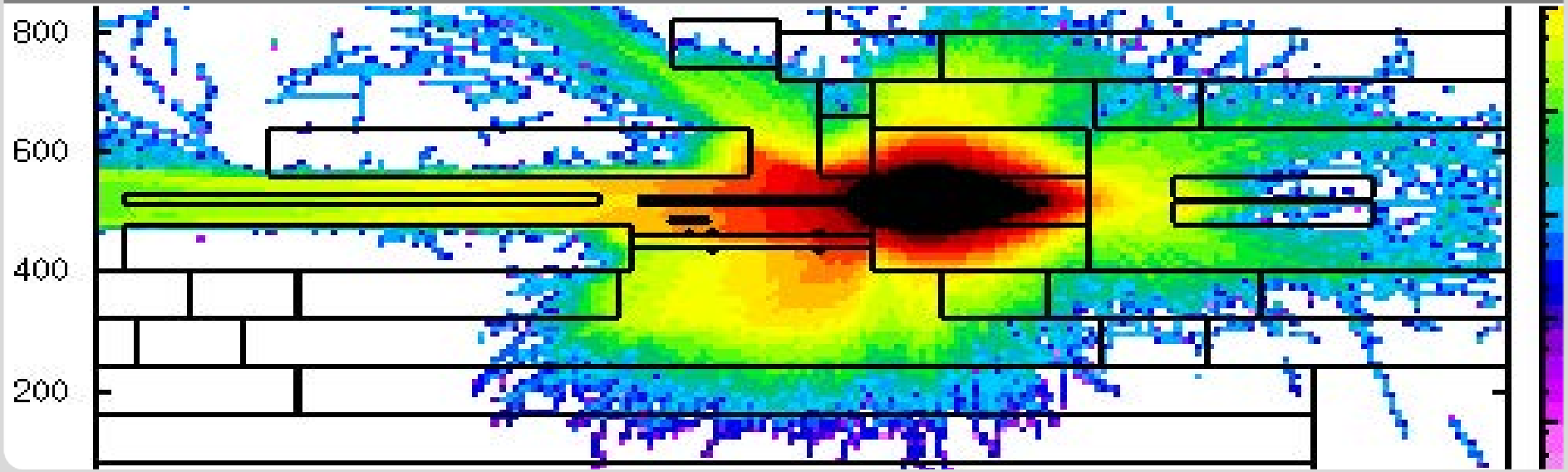
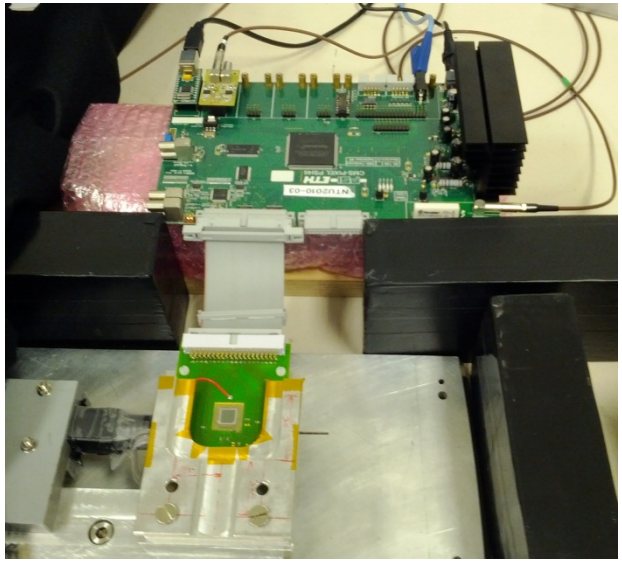
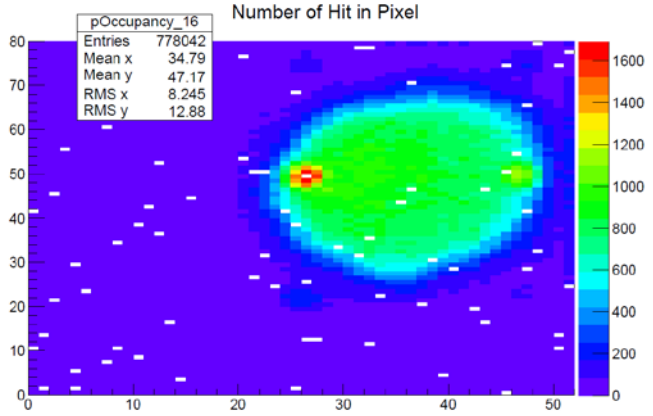


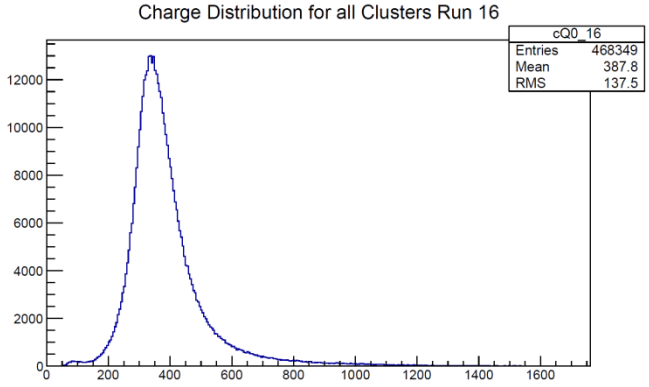
Working pixel readout



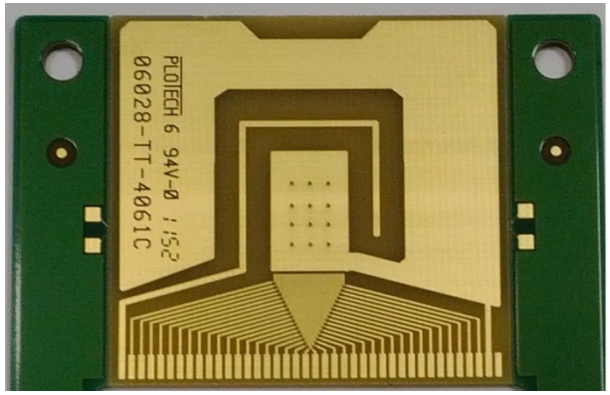
- Pixel readout working thanks to the help of Thomas
- Can now be used to test uniradiated sensors
- Test changes in on the trigger as soon as work on the firmware is done

→ Meeting with Beat Meier planed for Wed+Thu

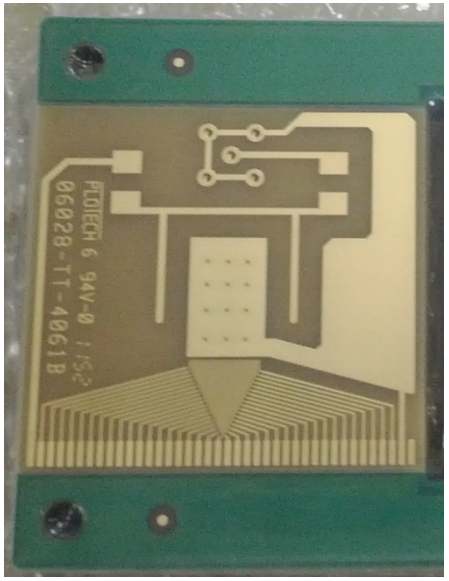




New batch of sensors

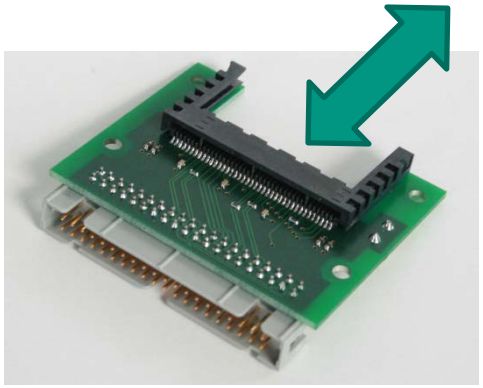


Simple version (bias over TB)



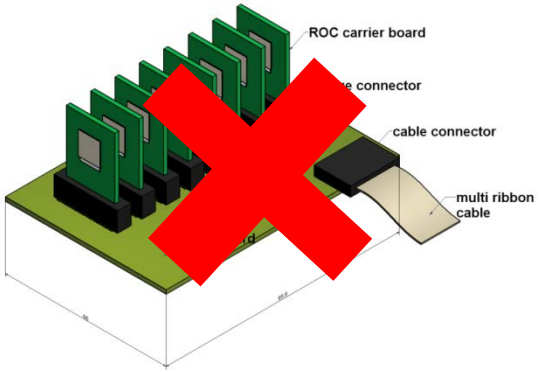
Lemo version

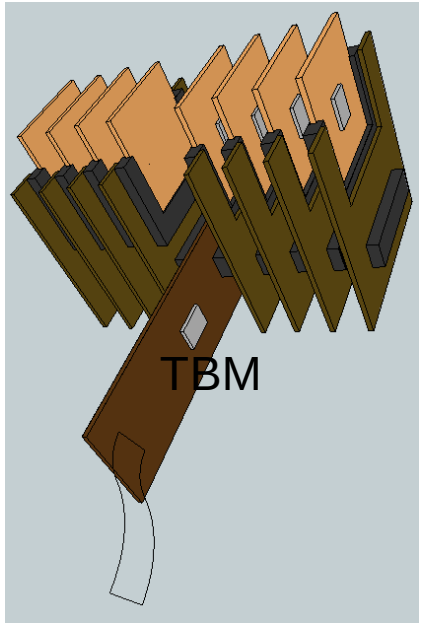
- Simple and lemo version PCB boards from Taiwan arrived
- Slide-in connectors (will be delivered in 2-3 weeks)
- 15 PSI46 single pixel modules bonded by PSI
- Will be used in possible “rehersal test beam” and to compare with PSI46dig



Slide-in connector

Telescope design (RAL)



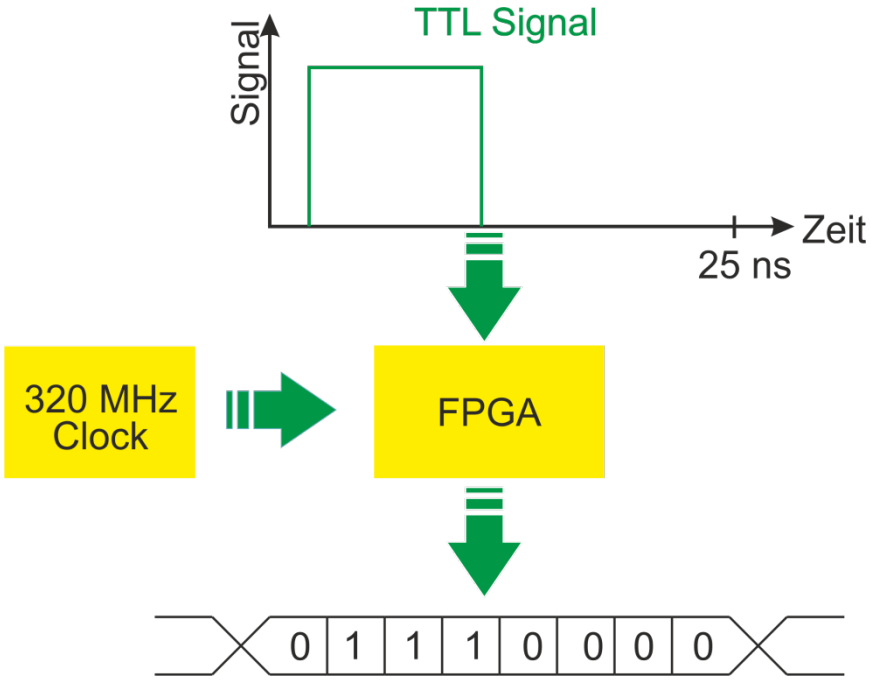


- Stack ROC PCBs
- TBM PCB in the middle
- Misalign connectors to vary incident angle of beam and improve resolution
  (~20° in rows, ~30° in columns)
- Two token chains (4 ROCs each) to reduce length signal has to be driven
- Connect to testboard through modified ROC carrier

https://indico.cern.ch/getFile.py/access?contribId=1&resId=0&materialId=slides&confId=174333

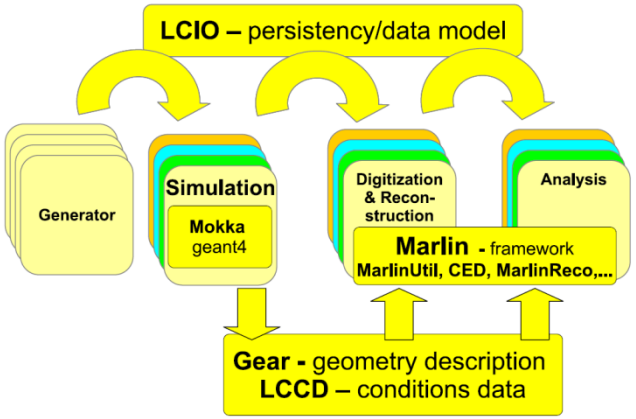
Trigger plans

- Posibility to trigger readout depending on when the signal arrived in the 25ns readout cycle
- Using the existing testboard hardware and impement it in the FPGA
- Also implement L1 Triggerrules

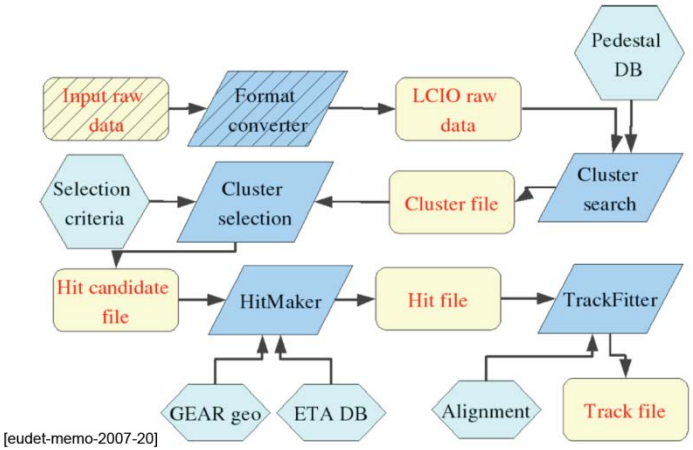


Software status

- We agreed on using the EuTelescope tracking software
  - → already used in several experiments (ATLAS FE-I4 beam test, EUDET pixel telescope)
  - → maintained by DESY



- Based on ILC software framework
  - Simulation: Mokka (geant4)
  - Reconstruction: Marlin
    provides data processors and event loops
  - Dataoutput with ROOT
- Grid ready



[eudet-memo-2007-20]