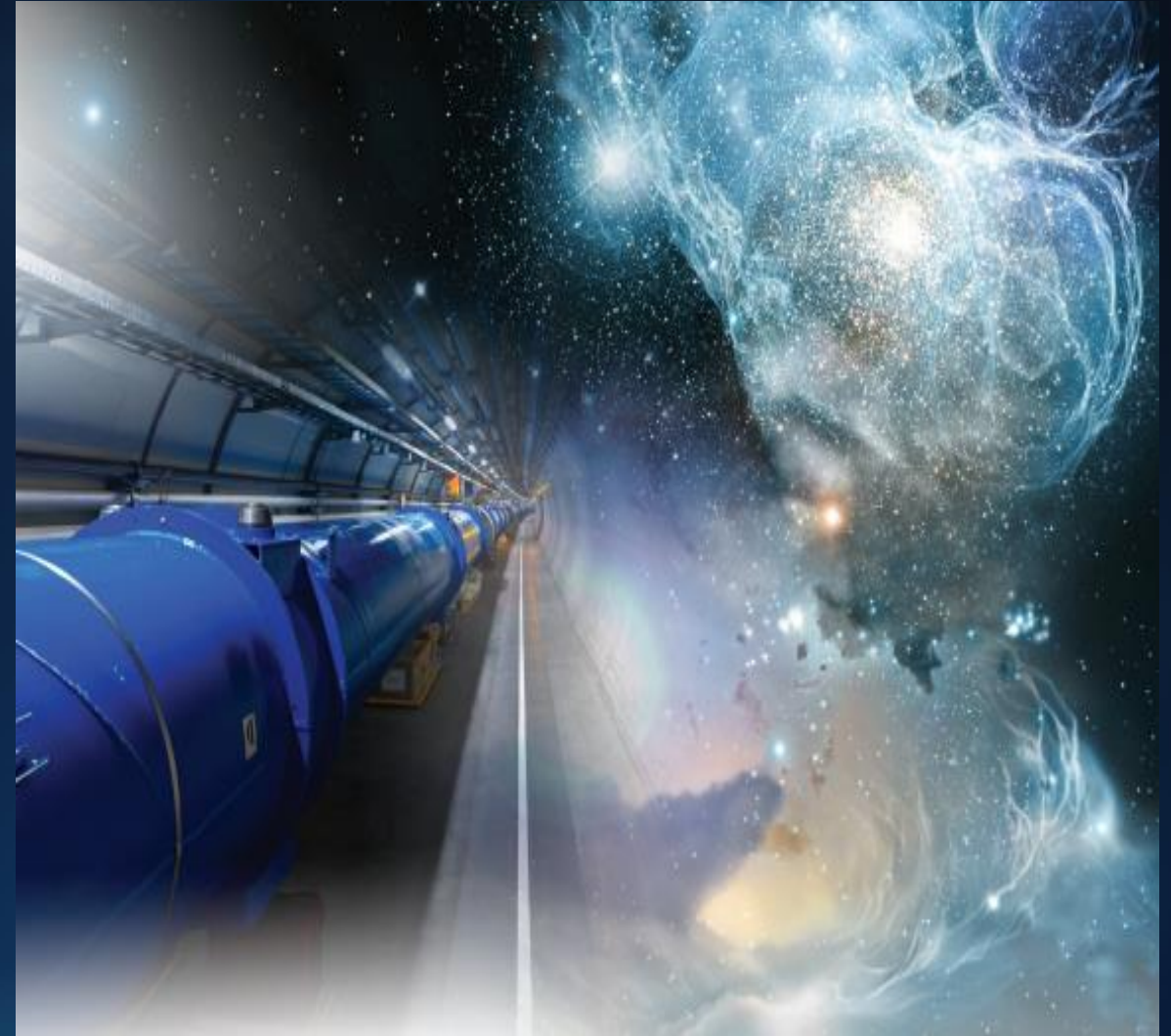




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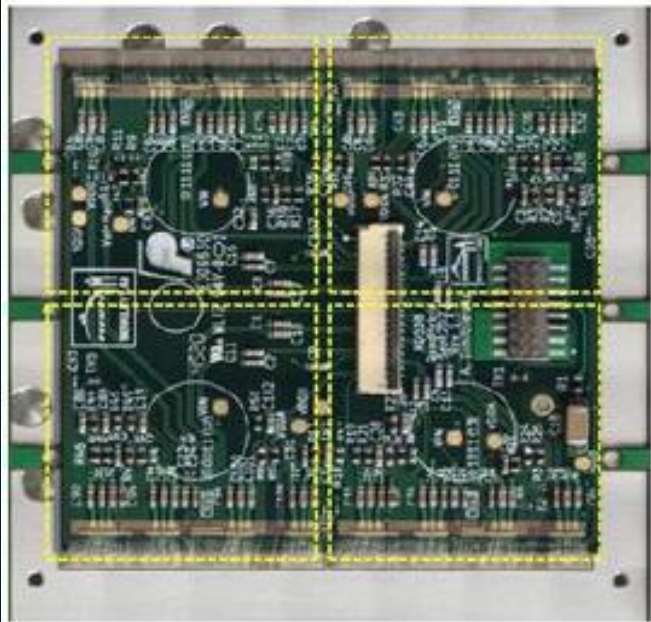
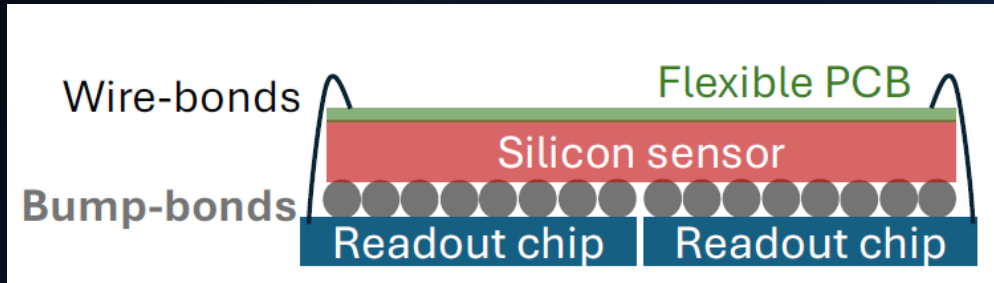
OPMD

**OXFORD PHYSICS
MICROSTRUCTURE
DETECTOR LABORATORY**



ATLAS ITk

- Building over 500 pixel modules for ATLAS ITk



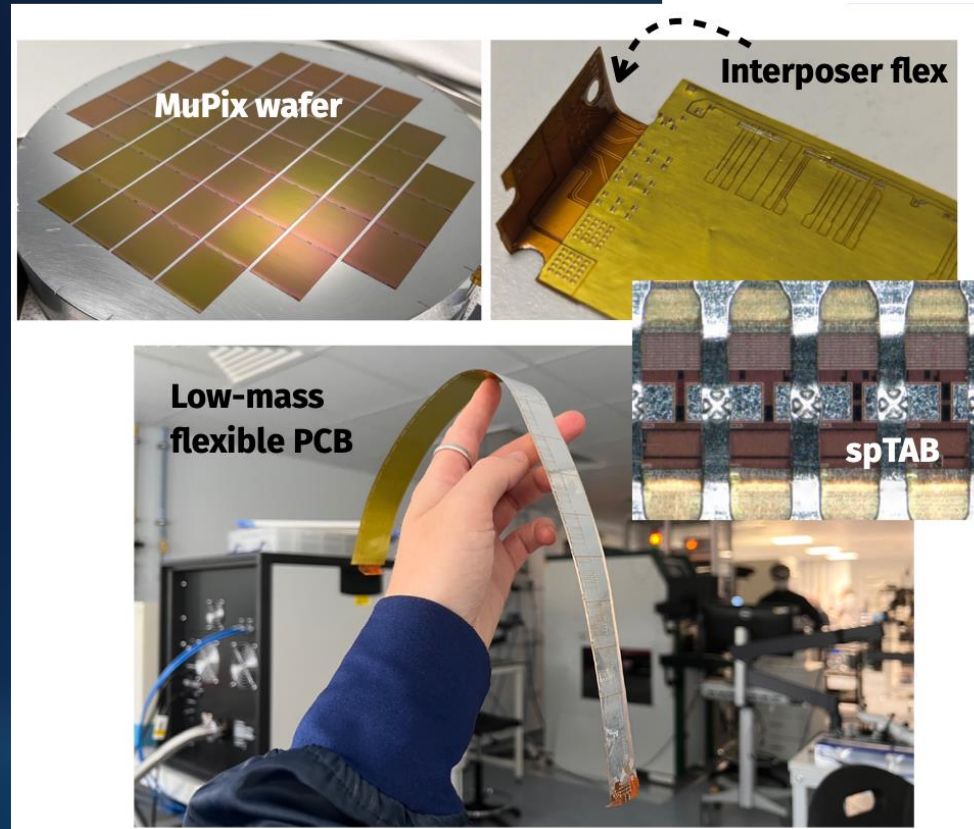
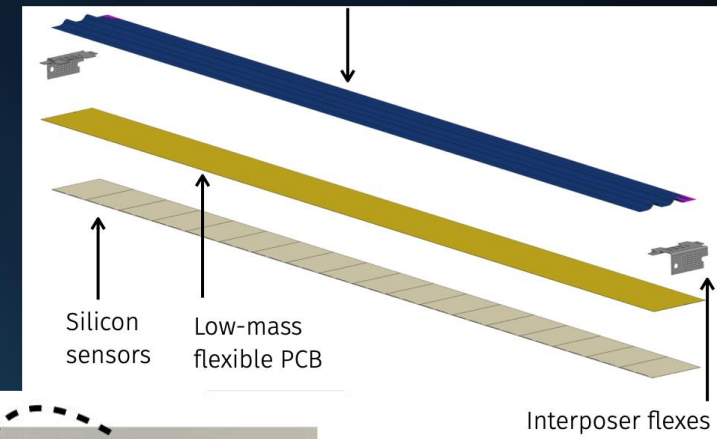
ATLAS ITk

- Loading modules on end caps half-rings



Mu3e Tracker

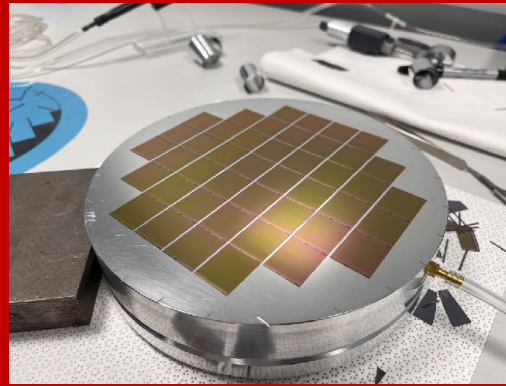
- Building 156 ladders for the Mu3e pixel tracker
 - Sensors:
 - MuPix11 thinned to 50-70 μ m
 - 6/ladder (Vertex: L1 & L2)
 - 17-18/ladder (Tracker L3/L4)
 - Aluminium/polymide film low-mass flex (HDI) produced by LTU (Kharkiv, UKR), 75 μ m thin
 - Ultra-thin Carbo-fiber mechanical support for long ladder
- Ladder weighs 2 grams and is 36.7cm long



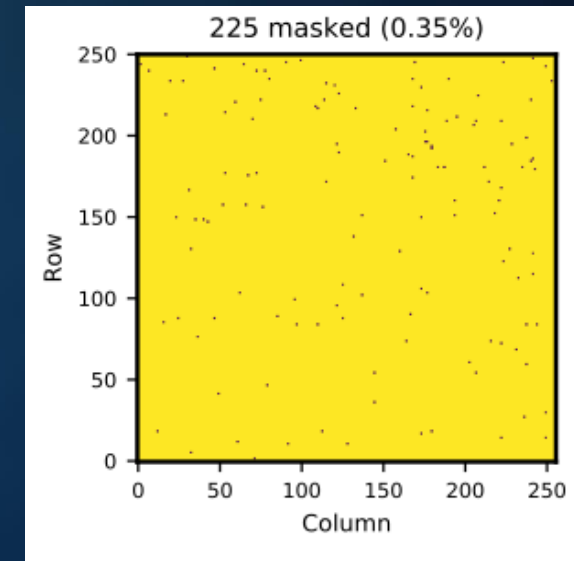
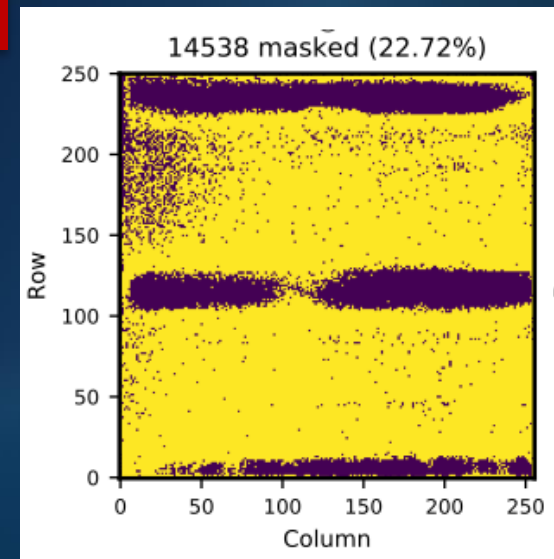
Composites & Low Mass Structures

Mu3e Tracker

- Monolithic detectors 70 μm thin
- Aluminum Kapton flex



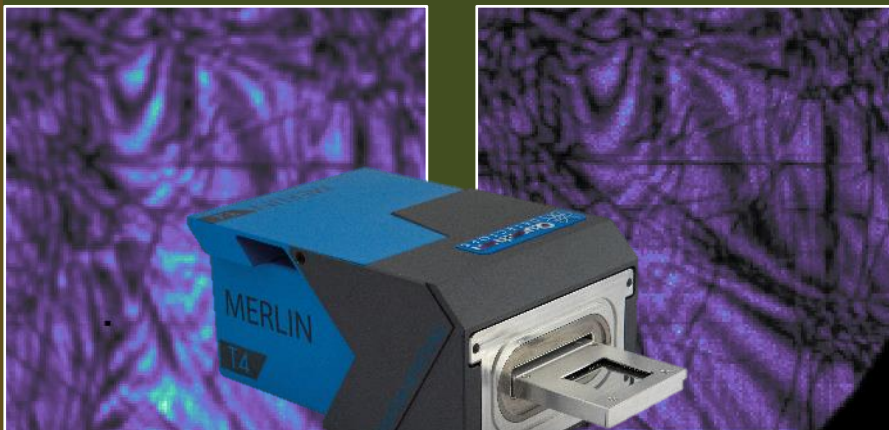
- Ultra thin composite structures
 - 25 μm thick Carbon Fibre
 - 12 μm thick Kevlar
 - CF/Kevlar Metamaterial
 - 8 μm kapton co-cured underneath



Timepix4 applications

4DSTEM (4- dimensional scanning transmission electron microscopy)

- Higher-resolution electron microscopy (PP, RFI, Materials)



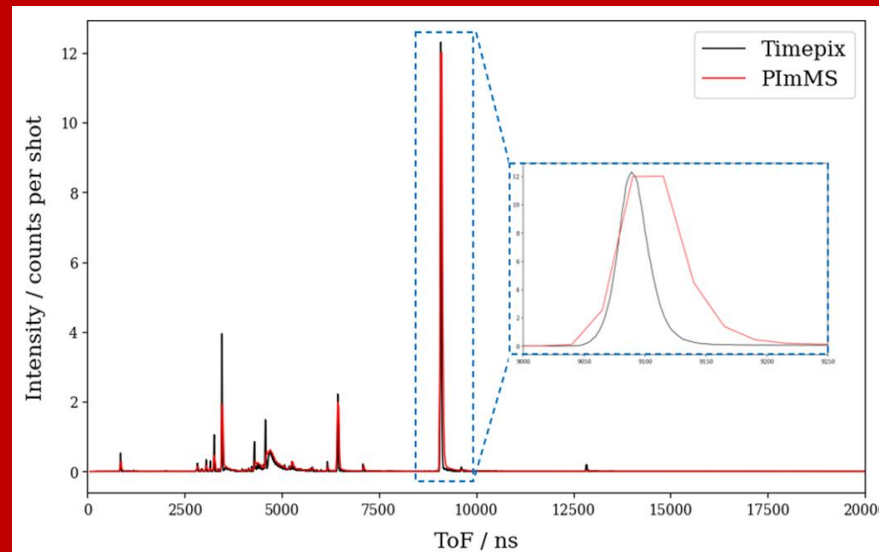
Raw data

Processed data

Quantum Detectors Merlin T4
system TEM detector system

Time of Flight Mass Spectrometry

- Time resolution: 25 ns $\rightarrow$ 200 ps (Chemistry)



Radiological Sample imaging system

- Tissue and/or sample analysis (Archaeology, Oncology)

