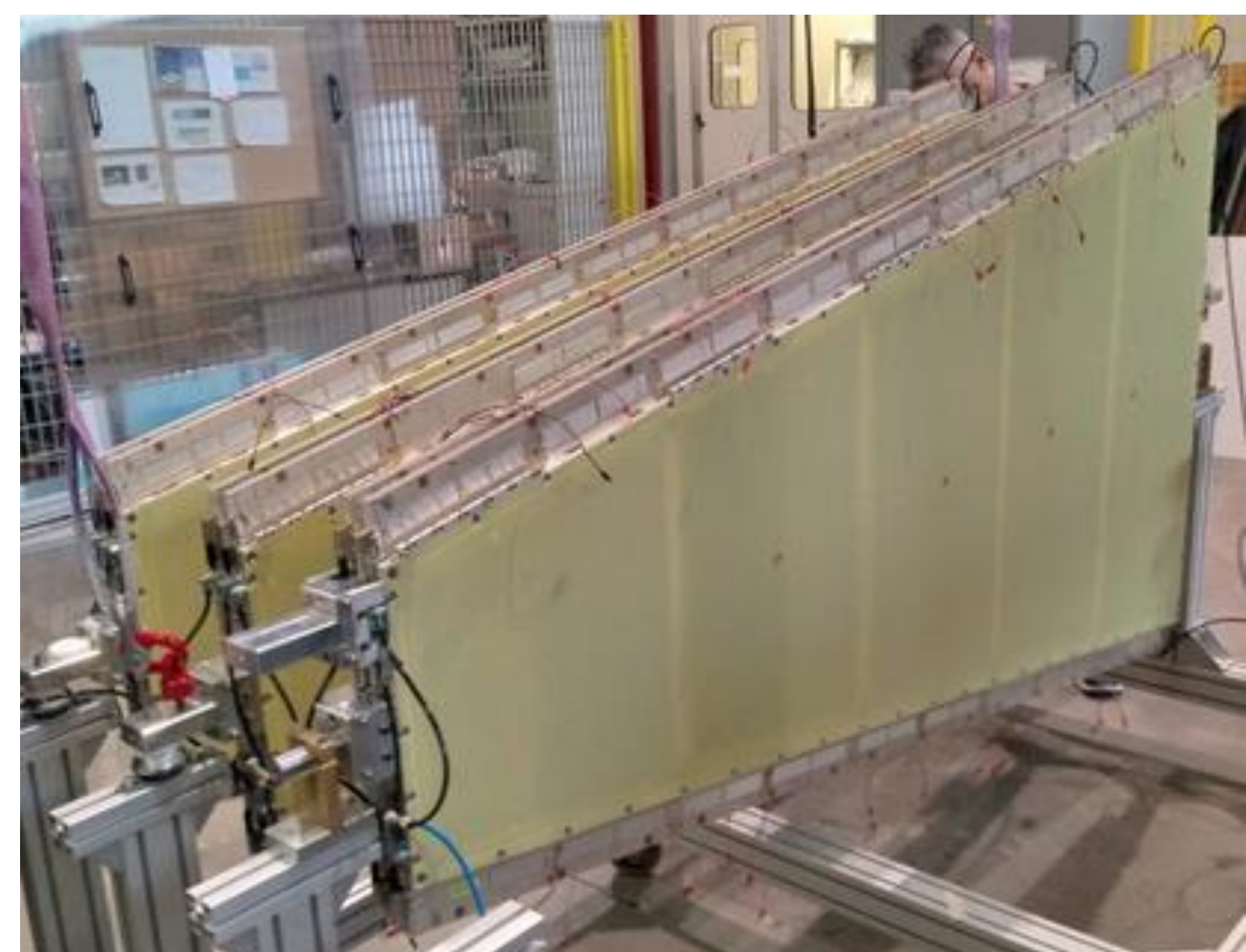


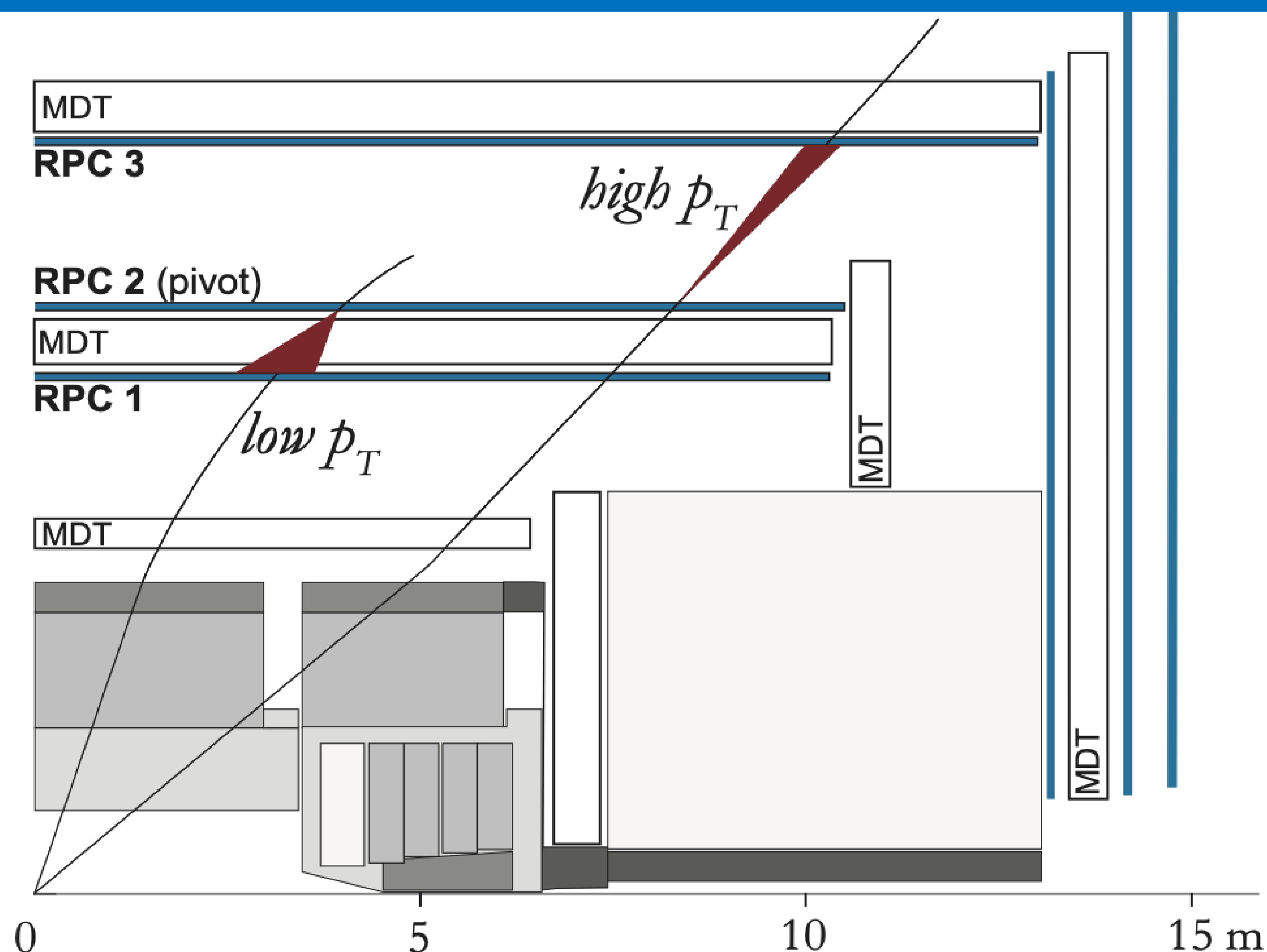
ATLAS Muon Precision Tracking Detectors



- The ATLAS Rome group has played a central role in the design, construction and commissioning of the **precision tracking chambers** for the Muon Spectrometer.
- The **Monitored Drift Tubes (MDT)** and the **MicroMegas** provide muon tracking information with high precision
- Crucial for high-precision measurements with muons and new Physics searches up to the Multi-TeV scale
- The group is also heavily involved in the development of the detectors' trigger, reconstruction and simulation software

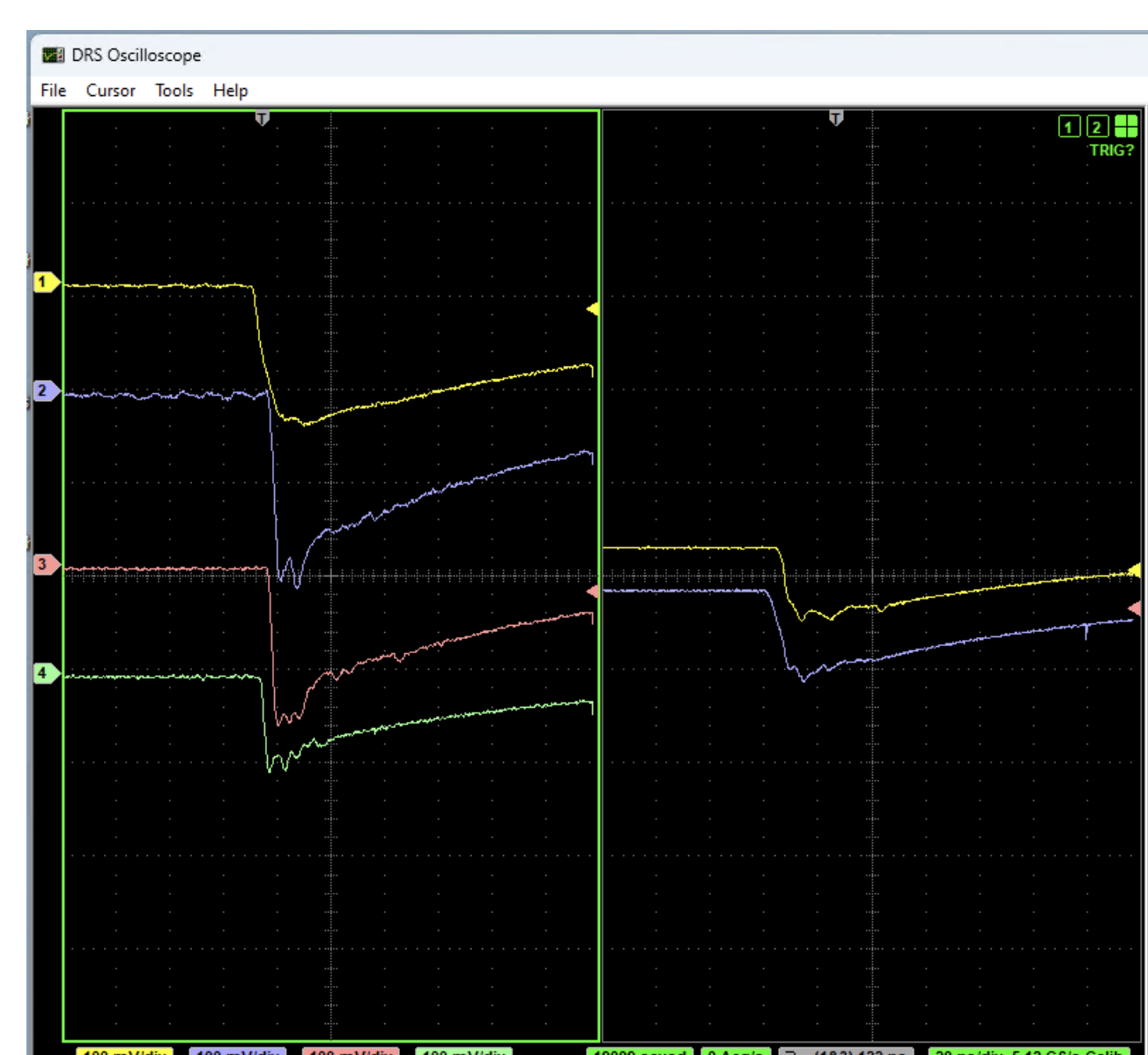
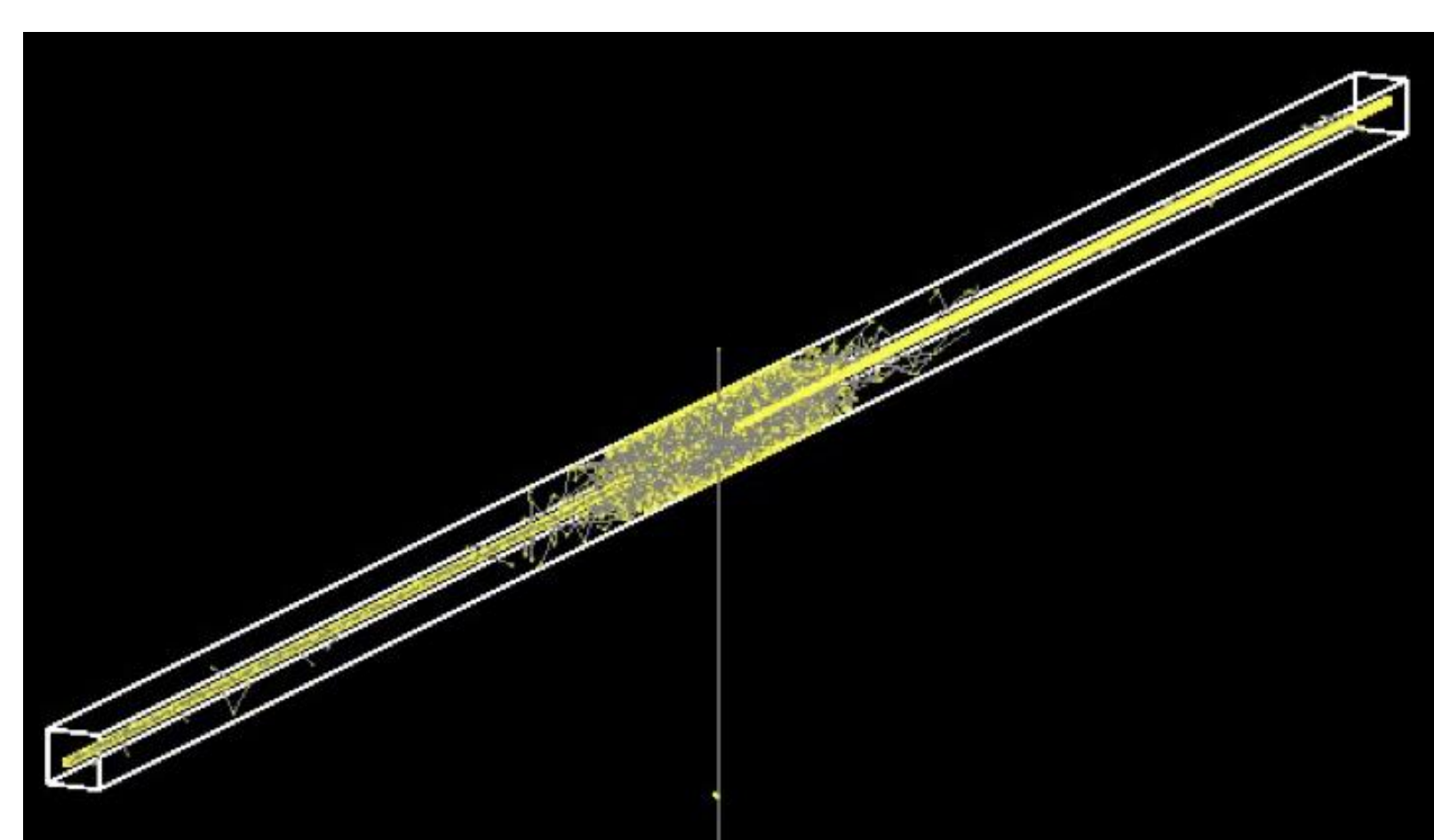
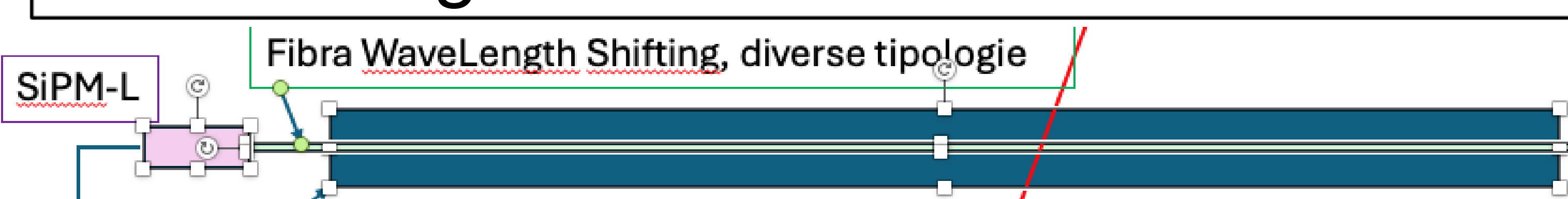
The ATLAS Muon Trigger

- The Rome group has built and is responsible of the current **muon trigger** in the barrel
- The group is also responsible of the system **upgrade** in view of Hi-Lumi LHC
- Triggers algorithms development with **FPGA** programming and **ML studies**



Research and Development

Scintillators with WLS fibers and Silicon Photo-Multipliers readout for muon trigger and tracking



Memristors for Particle Physics: study the usage of memristors for analog matrix multiplications for ML algs fast inference

