

Status report

Mhamad kassem Ayoub

Test beam analysis

- Root files for all the 2018 test beams are produced by PyAna framework
- <https://twiki.cern.ch/twiki/bin/view/LAr/HGTDTestbeamAnalysis>
- October test beam: v00-15-00
- Converted the “Oscilloscope” data to root files
- Corresponding logs contain the run list are also there

Oscilloscope data - Root files

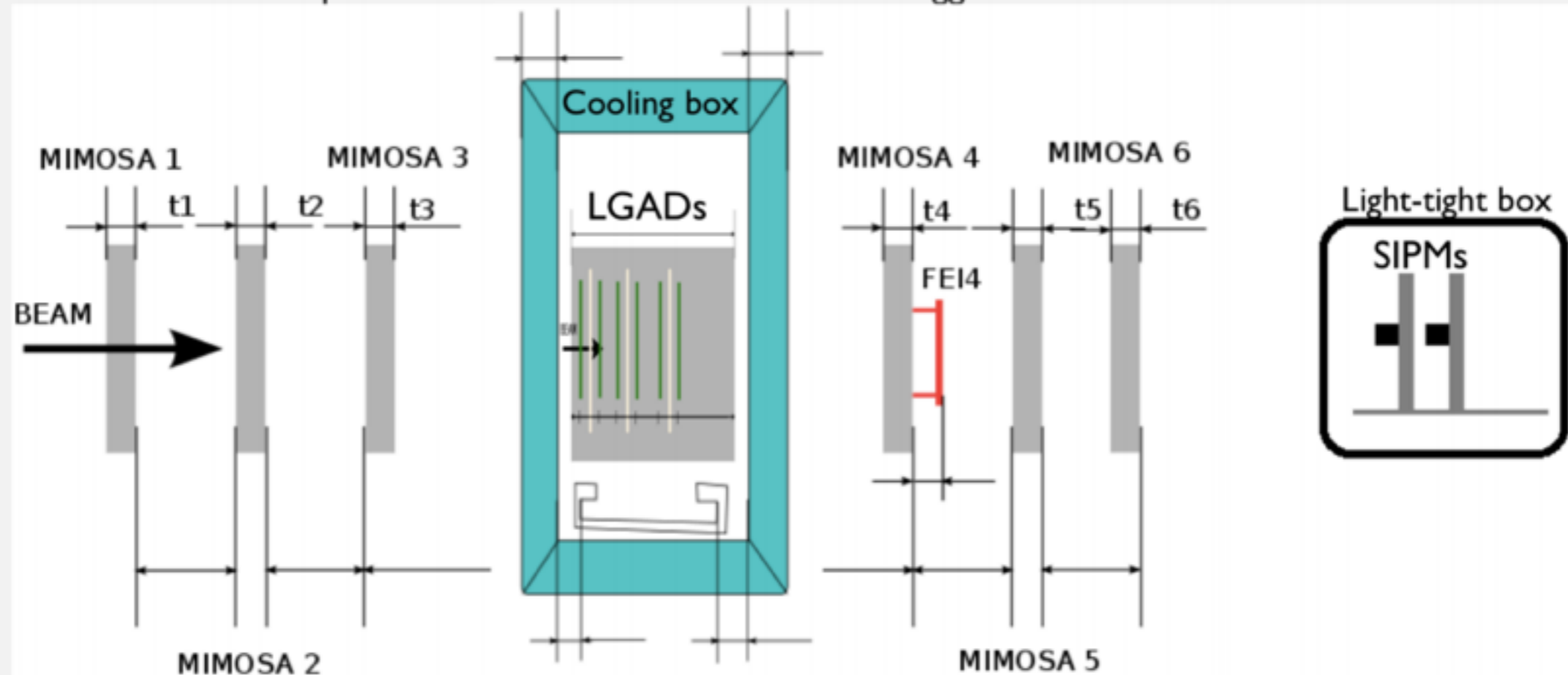
- Information about all the runs can be found here:
 - <https://gitlab.cern.ch/atlas-hgtd/TestBeam/PyAna/blob/master/Database/RunInfoOctober2018.dat>
 - Including run numbers, channels, sensors per channel, High Voltage
- I merged root files for same setups into one file
 - From 250 file to 12 files
 - /eos/atlas/user/m/mayoub/HGTD-TestBeam-OctoberFile
- Will check if there is any available analyse framework to run on these files

Telescope reconstruction

From **Lucia Castillo Garcia**

HGTD test beam layout

- North Area SPS H6A line
- Telescope with 6 MIMOSA planes
- FE-I4 used as reference plane
- HGTD DUTs: 6 LGADs
- Time reference system: quartz bars + SIPMs
- Trigger: FE-I4 + scintillator after MIMOSA 6



First look at track reconstruction

From **Lucia Castillo Garcia**

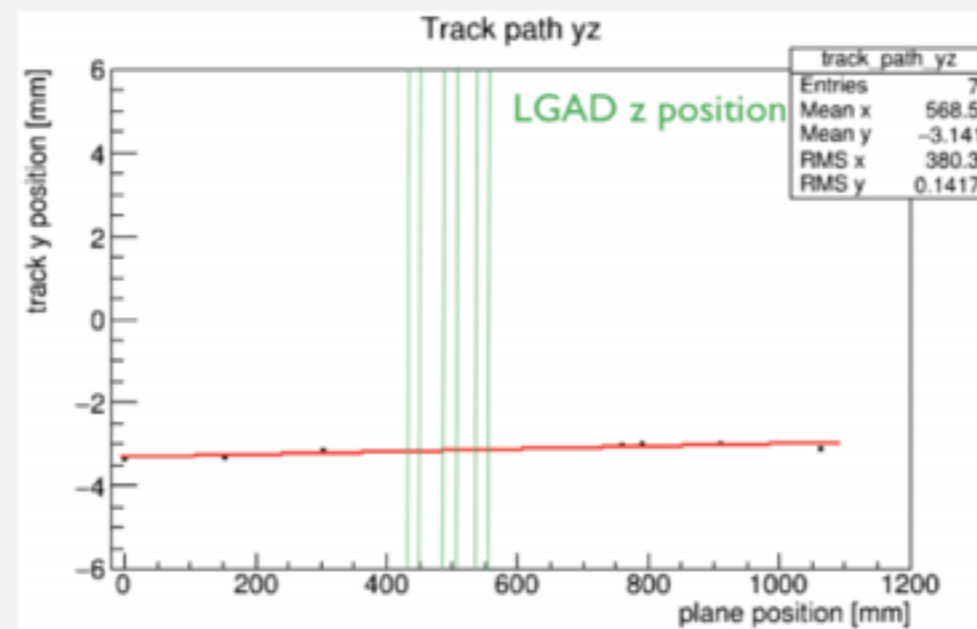
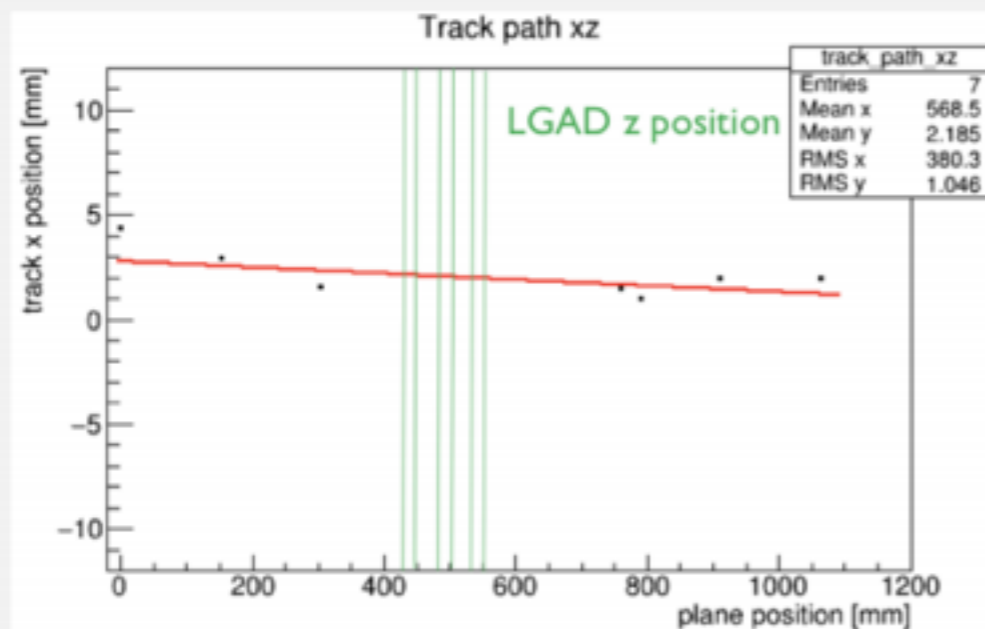
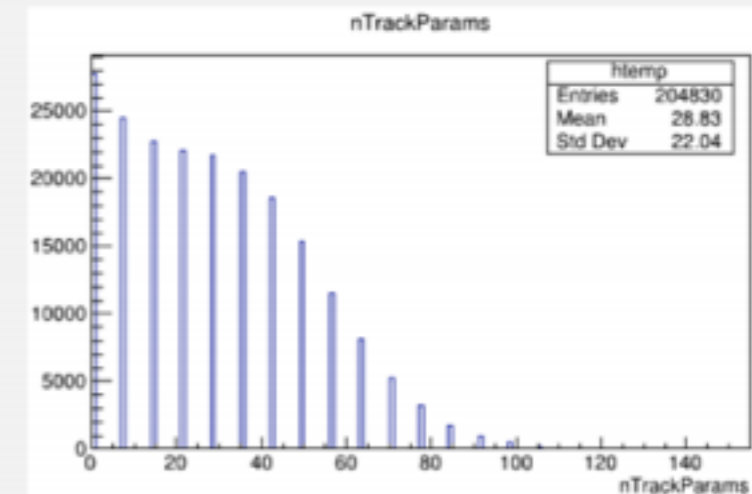
Particle tracks trajectory

MIMOSA planes 1 and 6 are fixed

Number of reconstructed tracks on all MIMOSA planes and FE-I4

Track hits on x and y vs z

Fit track points on all plane and extrapolate to LGAD z position



- **Work on-going to better align and understand fitting**

Incoming test beams

- SLAC

- 13 -18 December 2018
- Goal: Test HPK (Wno 8 + other good wafers) single pads and array

- Desy

28-Jan-19		Startup		Startup	
4-Feb-19	6	CMS-Pixel-Phase2	X	STRIDENAS	
11-Feb-19	7	CMS-Pixel-Phase2	X		
18-Feb-19	8	CLIC PIXEL	X	TELEALPID	X
25-Feb-19	9			ATLAS-ITk-Pixel	X
4-Mar-19	10	ELAD	X	ATLAS-ITk-Pixel	X
11-Mar-19	11	CMS-Pixel-Phase2	X	ATLAS-ITk-Pixel	X
18-Mar-19	12	CMS-Pixel-Phase2	X	ATLAS-HGTD	X
25-Mar-19	13	TBMST	X	ATLAS-HGTD	X
1-Apr-19	14			ATLAS-ITk-Pixel	X
8-Apr-19	15	CMS-Pixel-Phase2	X	ATLAS-ITk-Pixel	X
15-Apr-19	16	CMS-Pixel-Phase2	X	ATLAS-ITk-Pixel	X
22-Apr-19	17	Setup Time			
29-Apr-19	18	ATLAS-ITk-Strips	X	Mu3e	X
6-May-19	19	CMS Outer Tracker	X	Mu3e	X
13-May-19	20	CMS Outer Tracker	X	ATLAS-HGTD	X
20-May-19	21	CMS-Pixel-Phase2	X	ATLAS-ITk-TJCMOS	X
27-May-19	22	CMS-Pixel-Phase2	X	ATLAS-ITk-TJCMOS	X
3-Jun-19	23			Setup Time	

- 18 March - April 1
- 2 week time slot
- ALTIROC v1
- New sensor tests

- 13 May - 20 May
- 1 week time slot