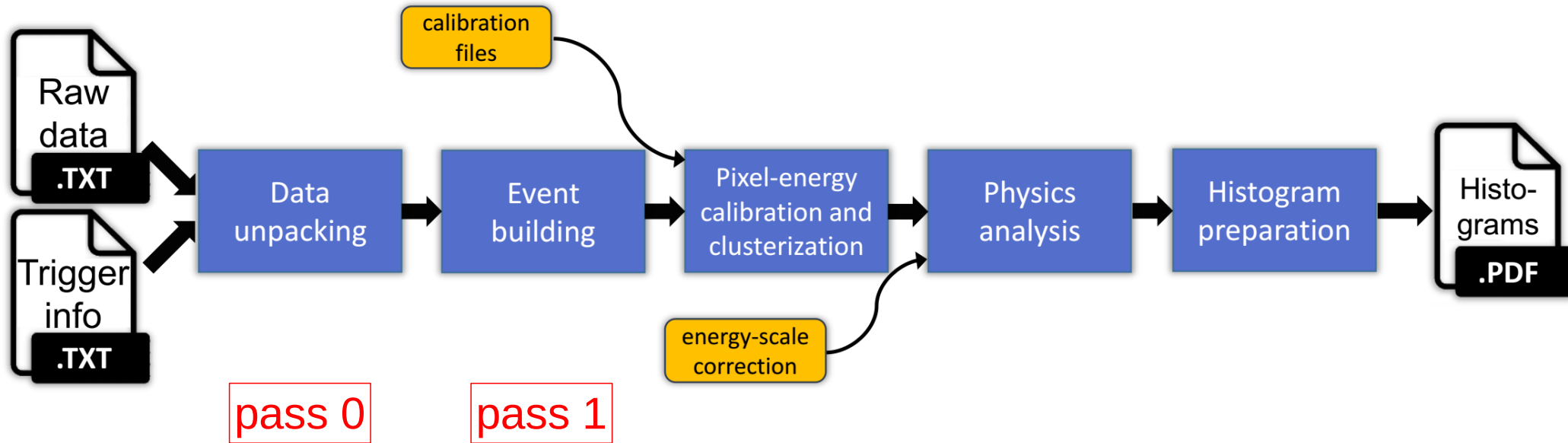


July 2024 TRD test beam: data preparation

Data placement

	Data stream	Runs	Storage	
Preliminary measurements July 22-23	GaAs	359-373	raw data (*.txt)	/eos/atlas/atlascerngroupdisk/det-trt-tb/testbeam2024/GaAs/RawData/ ✓
			analysed (*.root)	/eos/atlas/atlascerngroupdisk/det-trt-tb/testbeam2024/GaAs/ ExpressAnalisysDuringDataTaking/ ?
	DAQ	1065-1075	raw data (*.data)	/eos/atlas/atlascerngroupdisk/det-trt-tb/testbeam2024/TRT/RawData/ ✓
			analysed (*.root)	/eos/atlas/atlascerngroupdisk/det-trt-tb/testbeam2024/GaAs/RawDataRoot/ ✓
Main running period July 24-30	GaAs	374-459	raw data (*.txt)	/eos/atlas/atlascerngroupdisk/det-trt-tb/testbeam2024/GaAs/RawData/ ✓
			analysed (*.root)	/eos/atlas/atlascerngroupdisk/det-trt-tb/testbeam2024/GaAs/ ExpressAnalisysDuringDataTaking/ ?
	DAQ	1077-1159	raw data (*.data)	/eos/atlas/atlascerngroupdisk/det-trt-tb/testbeam2024/TRTR/RawData/ ✓
			analysed (*.root)	/eos/atlas/atlascerngroupdisk/det-trt-tb/testbeam2024/GaAs/RawDataRoot/ ✓

GaAs data processing chain



pass 0: unpack data

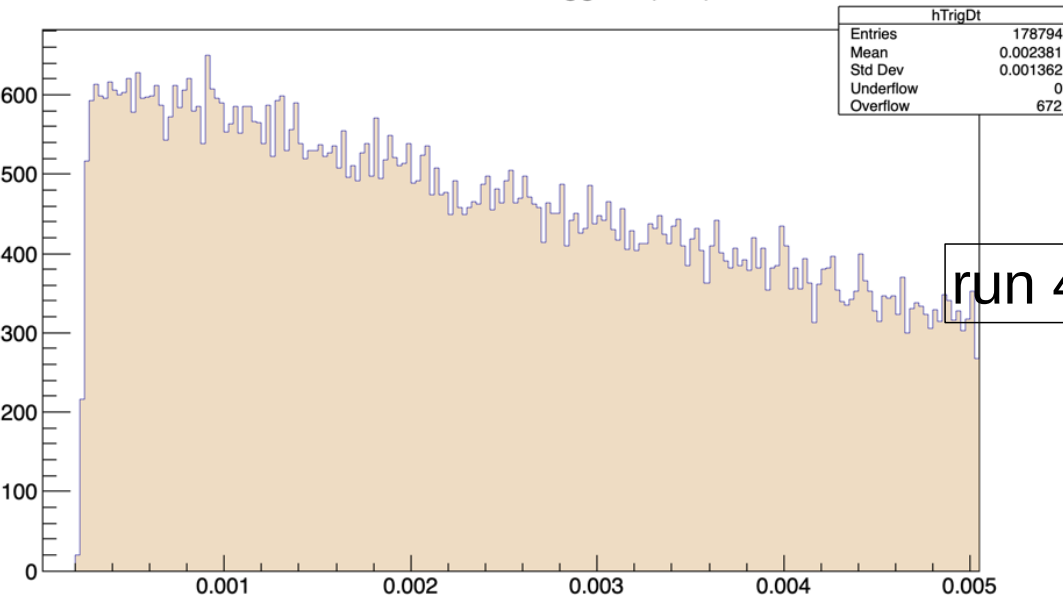
no selections, except: double or multiple triggers with identical timing (integer value with 1 ns precision) are considered as a single trigger.

pass1: build events

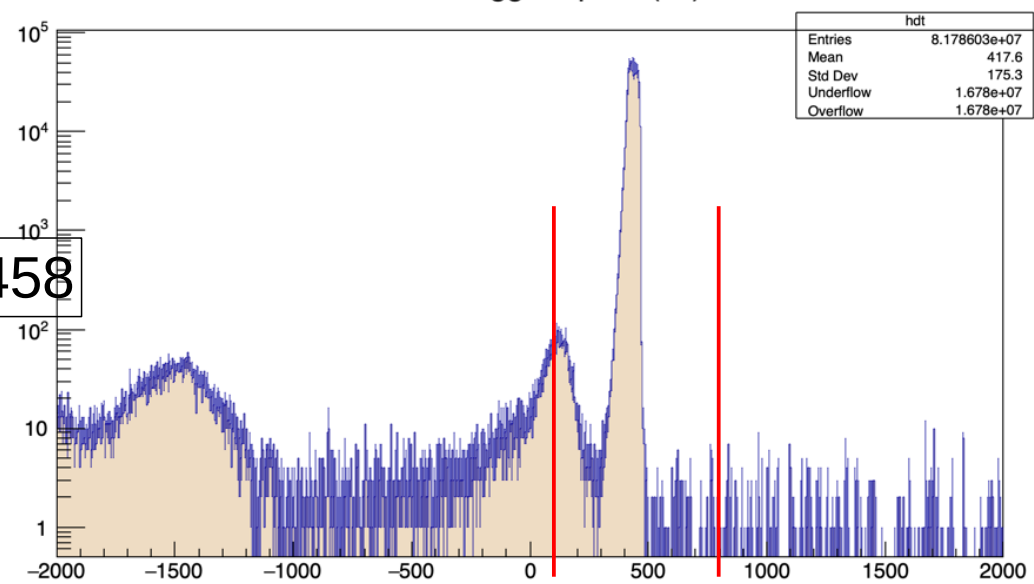
time window for fired pixels with respect to trigger timing:

$$100 \text{ ns} < t_{\text{trigger}} - t_{\text{pixel}} < 800 \text{ ns}$$

Interval between triggers (sec)



Delta T trigger - pixel (ns)



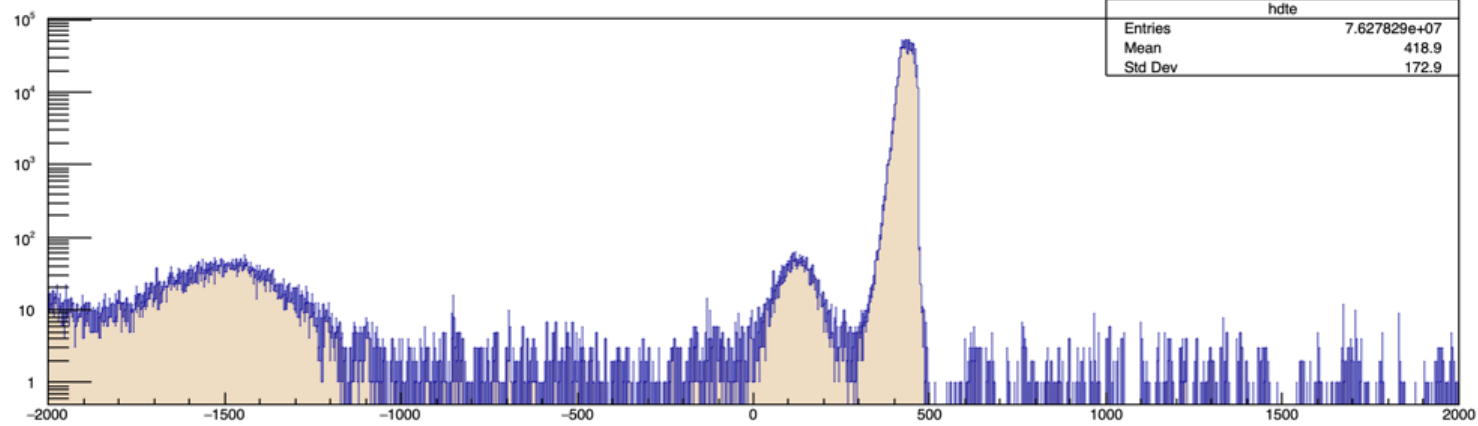
Conclusions

- The DAQ runs are unpacked into ROOT trees and are ready for thorough offline processing
- We may still want to reprocess GaAs event building stage in order to adjust pixels time window

Backup slide

pixels timing for electrons and pions

Delta T trigger - pixel (ns) for electrons



Delta T trigger - pixel (ns) for pions

