

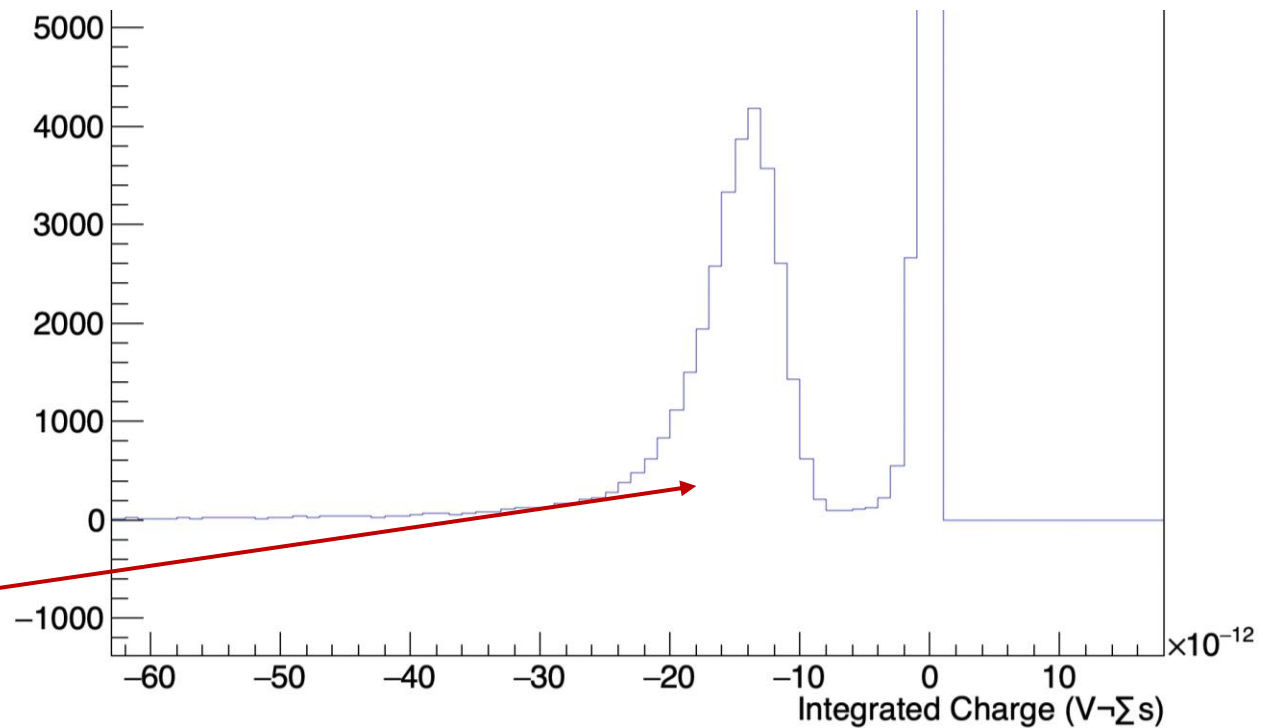
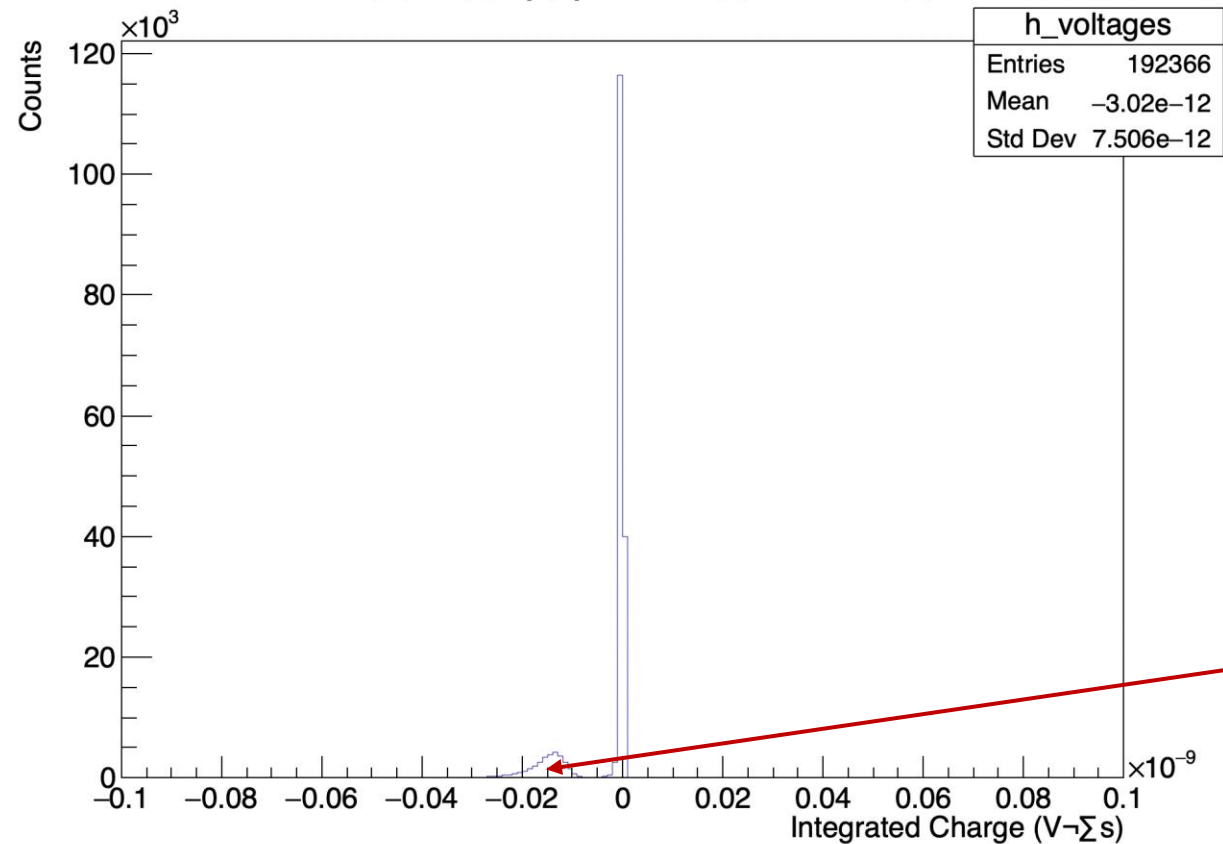
Preliminary results from DESY WP6 AIDAInnova test beam, February 2024

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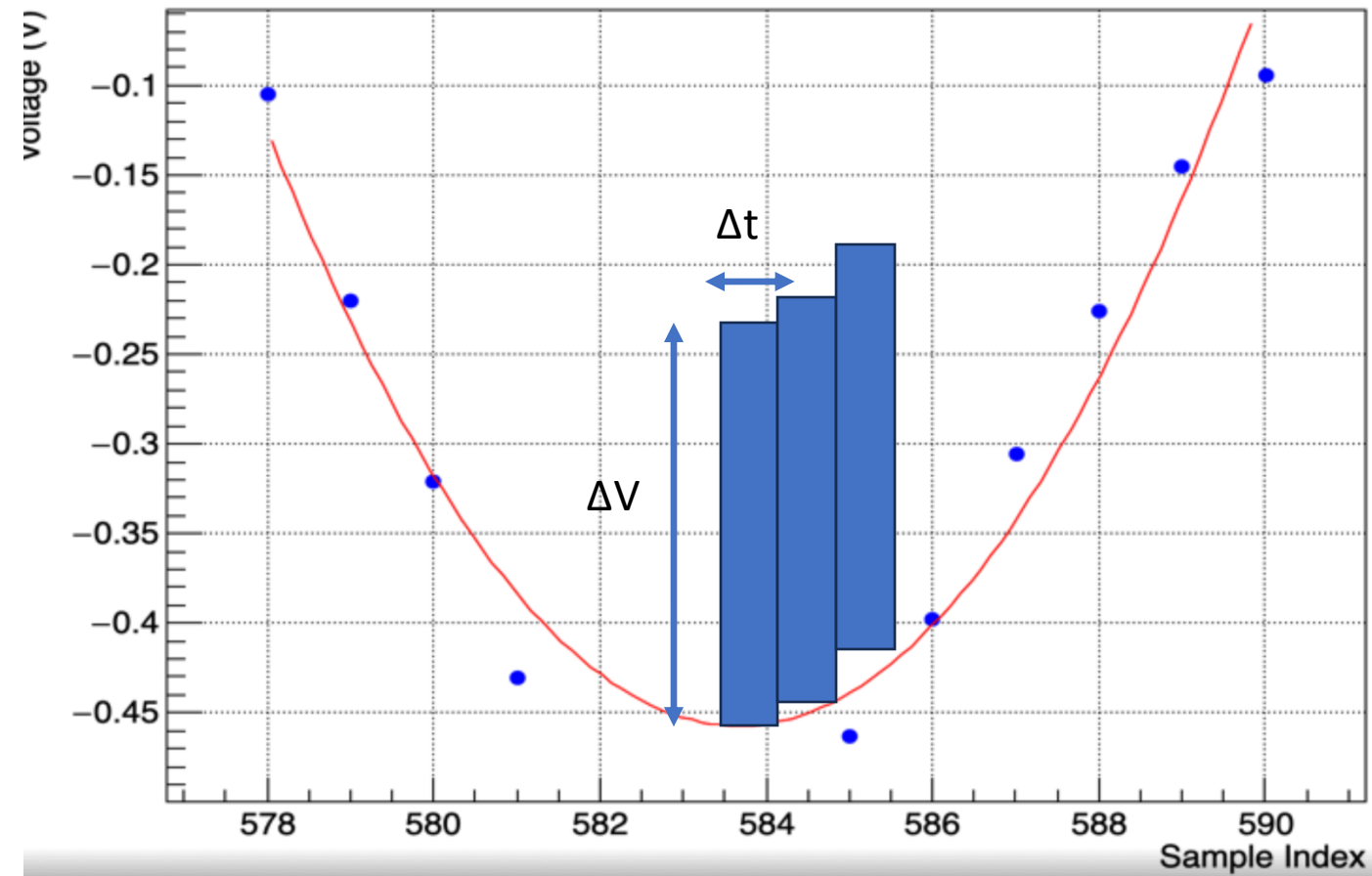
Outline

- Run number 278
- Sample analysed JSI9 hexagonal 3D unirradiated detector mounted on Chubut board
- Used Corryvreckan analysis
 - tracking reconstruction
 - Creation of ntuples **ROOT file with the track intersections at the different DUTs planes**
- Here showing plots:
 - Spectrum (Integrated charge distribution), ToA of a particle, efficiency of the detector

DUT_JSI_top_position_Channel_6

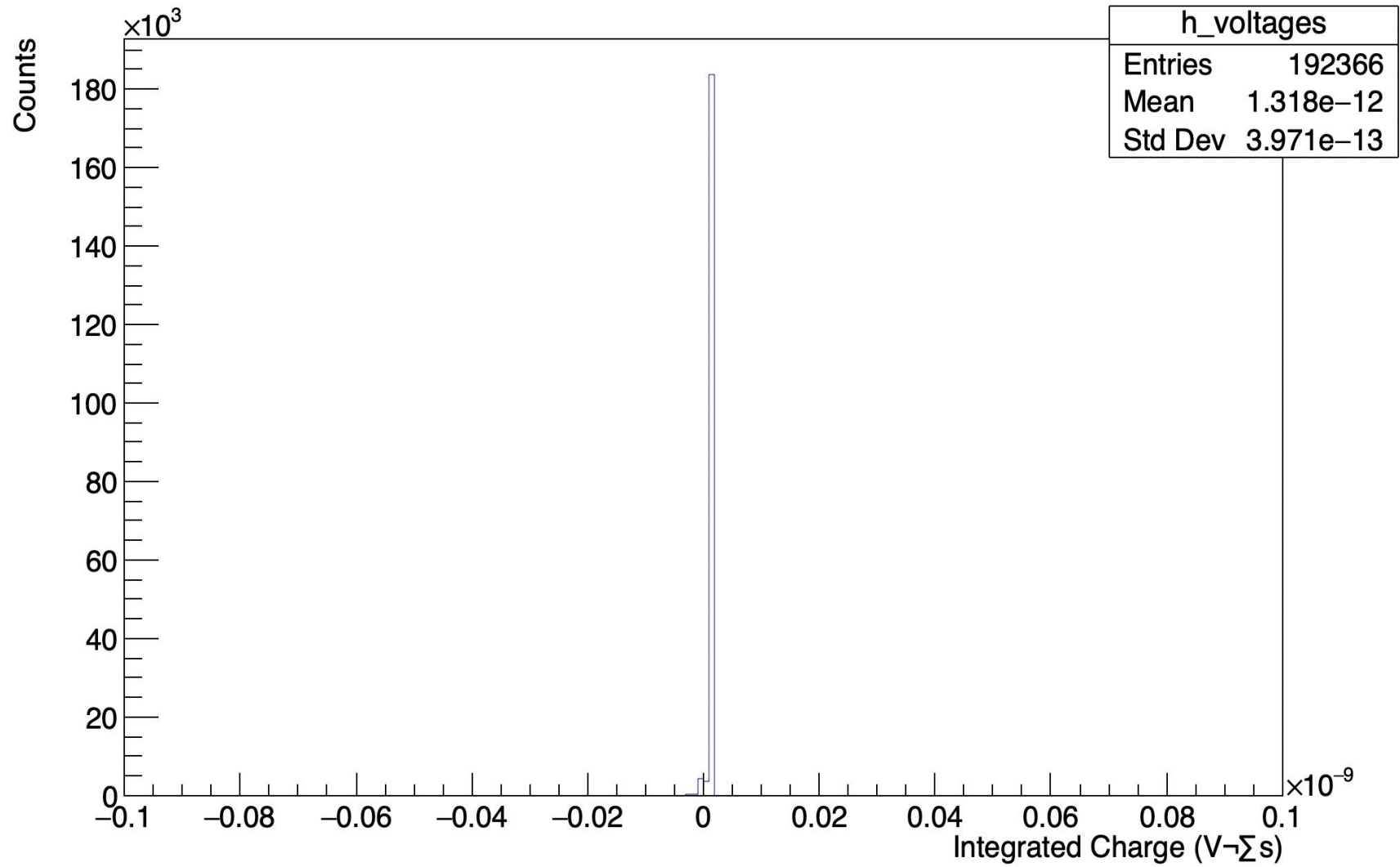


Channel 6 Waveform - Event 412



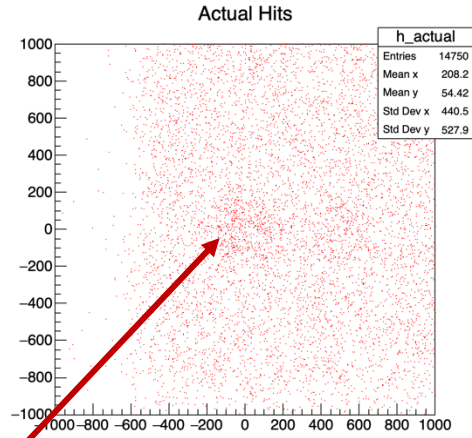
- Steps for calculating Integrated charge:**
- 1) Get waveform tree data (voltages)**
 - 2) Peak voltage for single waveform**
 - 3) Integrating with defined bin range**

TREF1_Channel_1



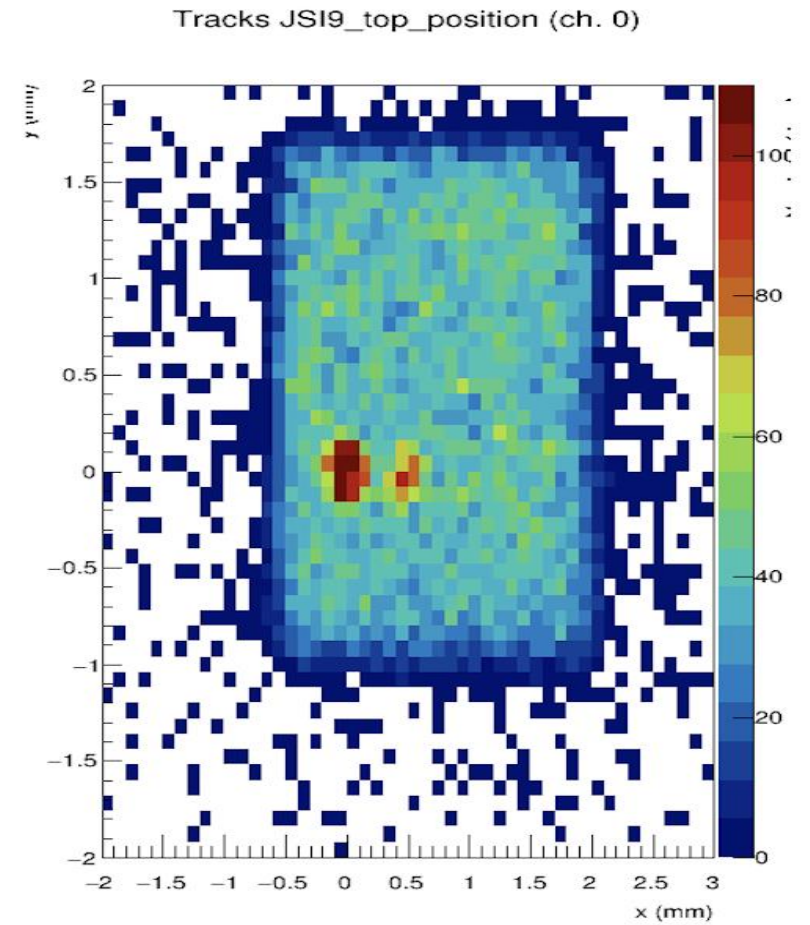
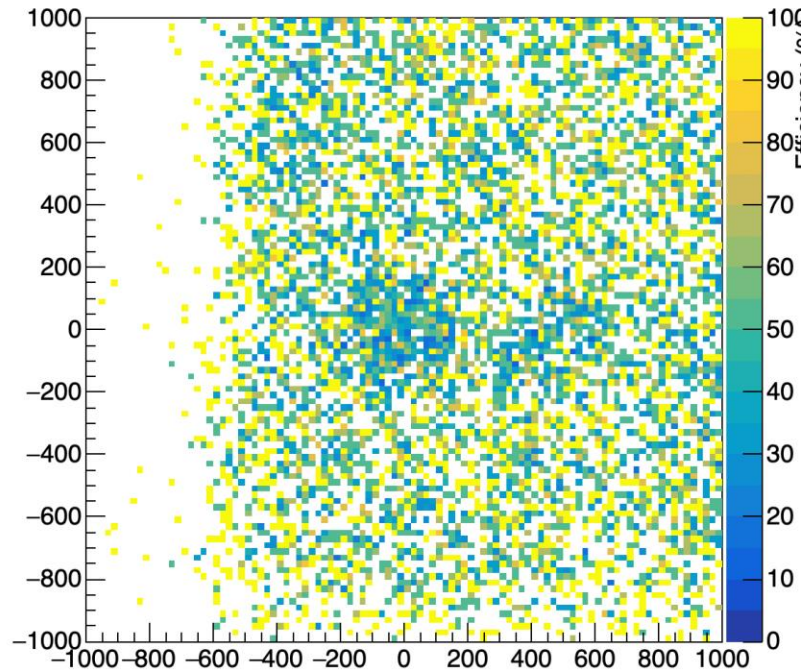
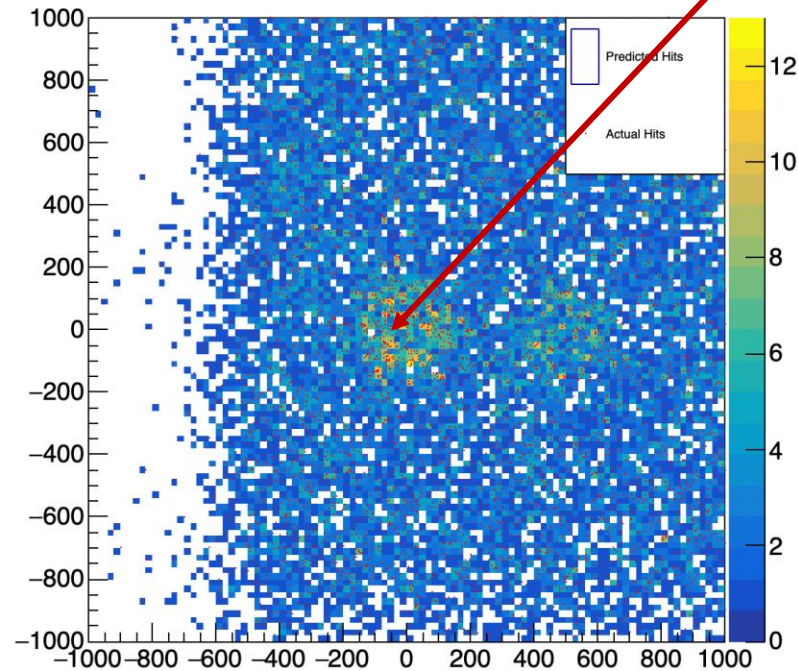
Efficiency plot_DUT_JSI9

Efficiency=(Number of hits/Number of tracks)100%
-Threshold defined for identifying hit



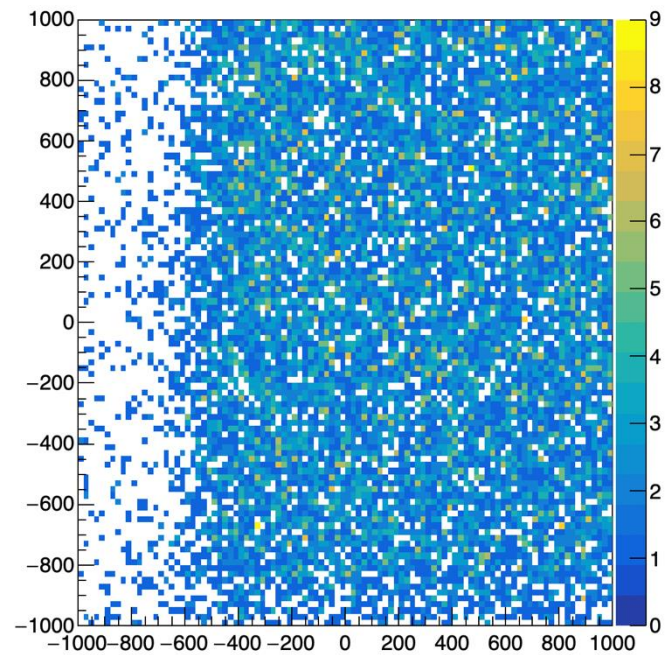
Predicted Hits

Efficiency (Actual Hits / Predicted Hits)

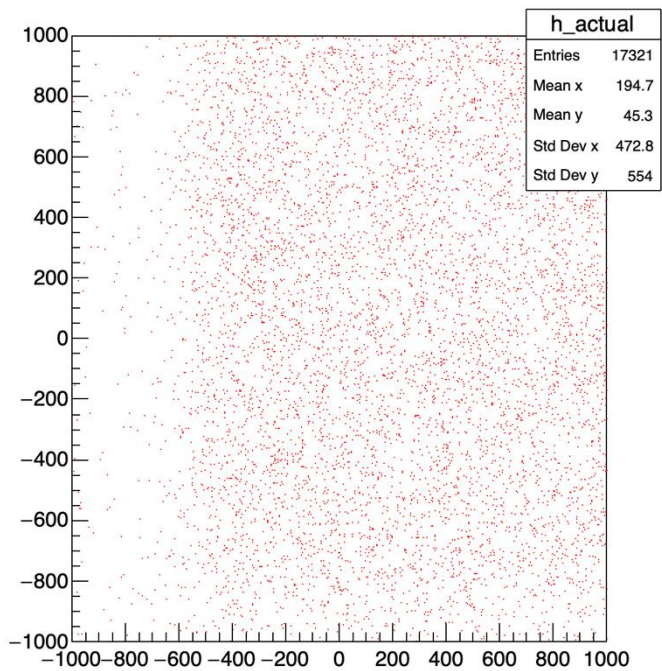


3D JSI top position unirradiated detector

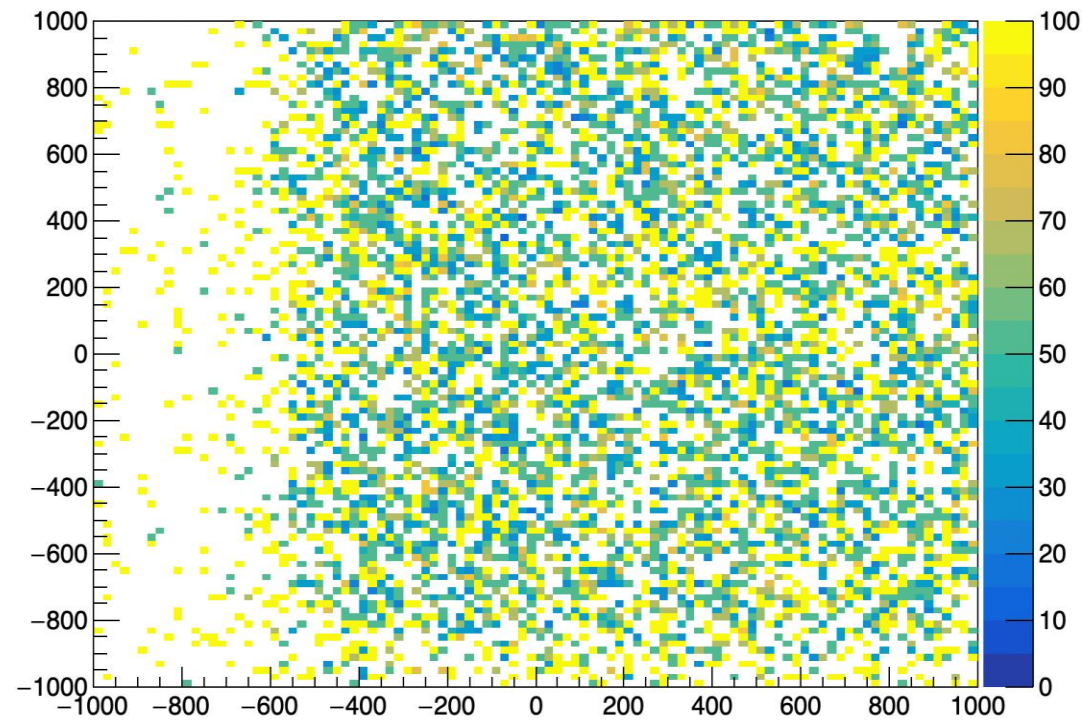
Predicted Hits



Actual Hits

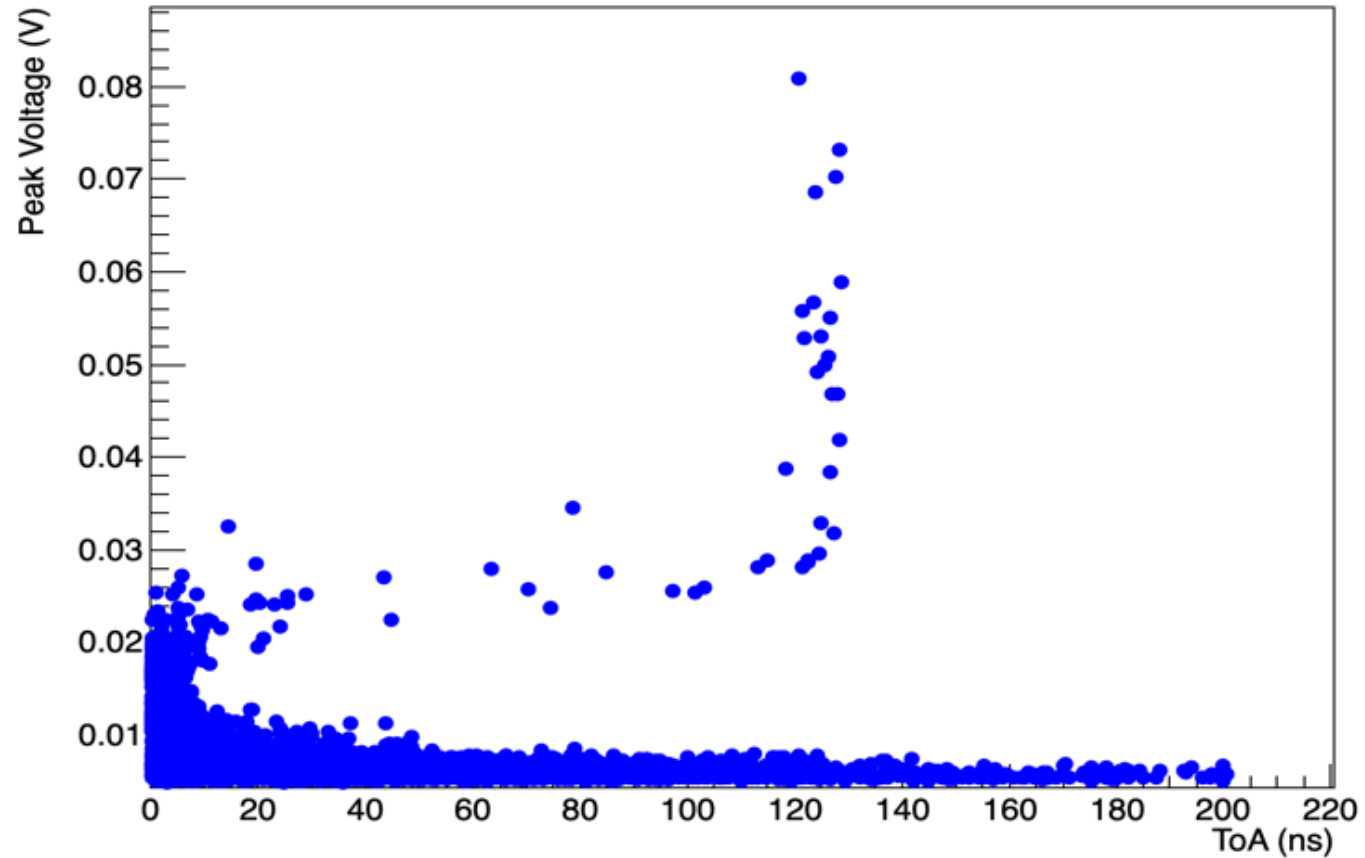


Efficiency Map



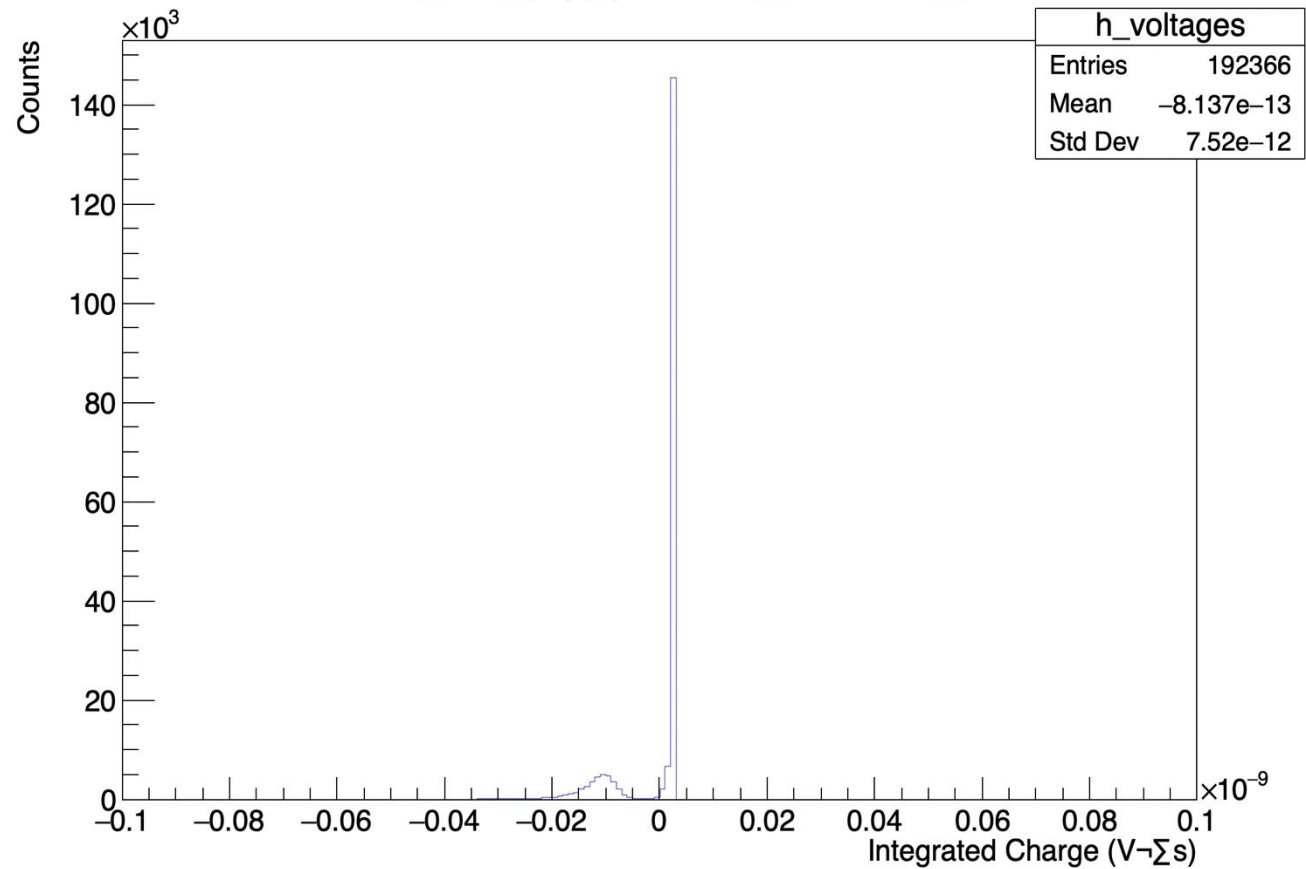
Time of arrival of the particle (used CFD algorithm with 20% of the peak for each waveform)

Voltage vs Time of Arrival (ToA)

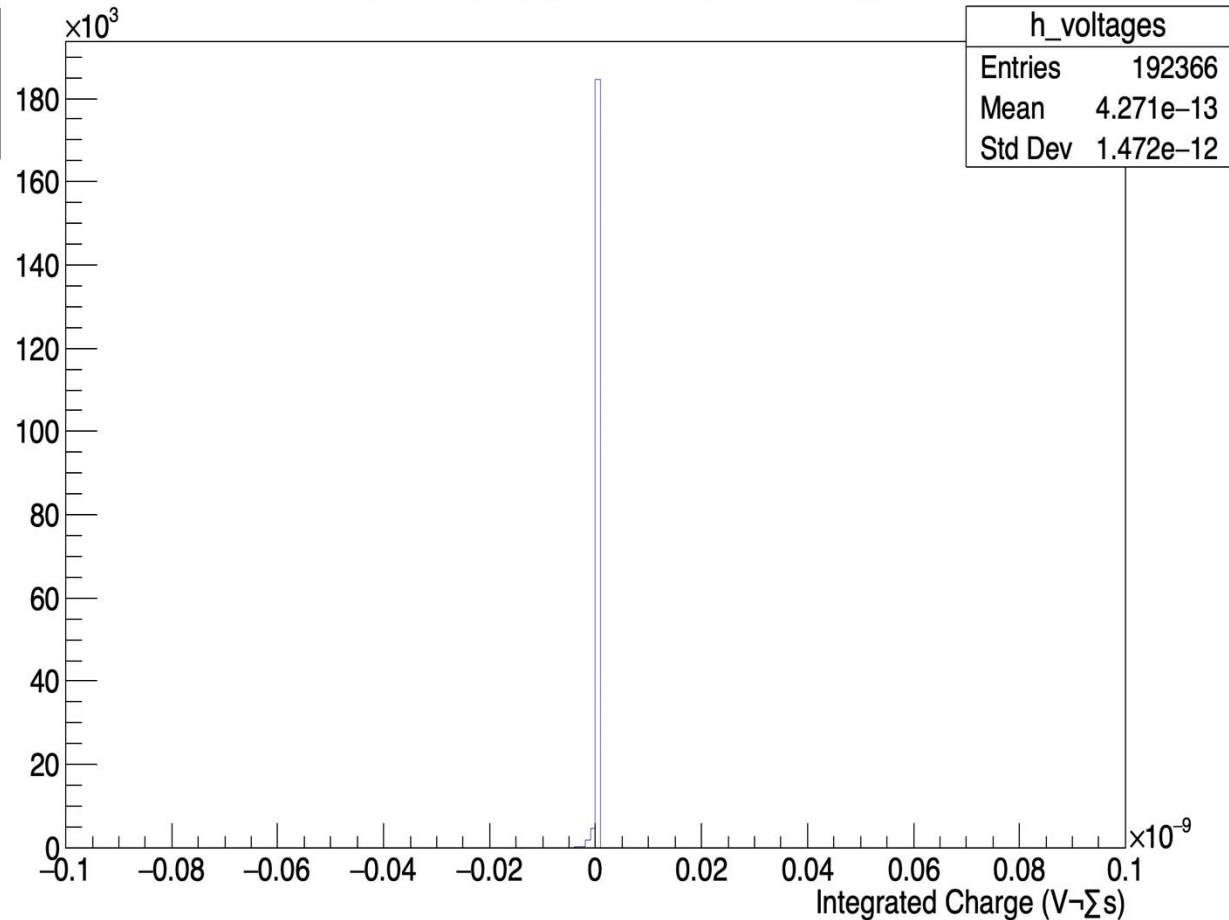


BACKUP

DUT_JSI_top_position_Channel_7



DUT_JSI_top_position_Channel_5



TREF1_Channel_4

