

NEUTRON DETECTOR  
TEST  
RCNP E479

Tuesday June 20, 2016  
10:00 Hrs.

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# Outline

## Data Collection:

- Detectors
- Beam
- Tests
- Experimental &
- Electronic Setups

## Data Analysis:

- Pulse shape
- Timing information
- Position information
- Time of Flight Distribution
- Neutron Energy Distribution



# Data Collection<sup>1</sup>

## Detectors [[Bicron BC-408](#)]

- Veto counter
- Two 1-m long bar detectors [[Station 1](#)]
- Four 2-m long bar detectors [[Station 2](#)]
- Four block detectors [[Station 3](#)]

## Beam:

- 392 MeV proton
- 65 MeV proton

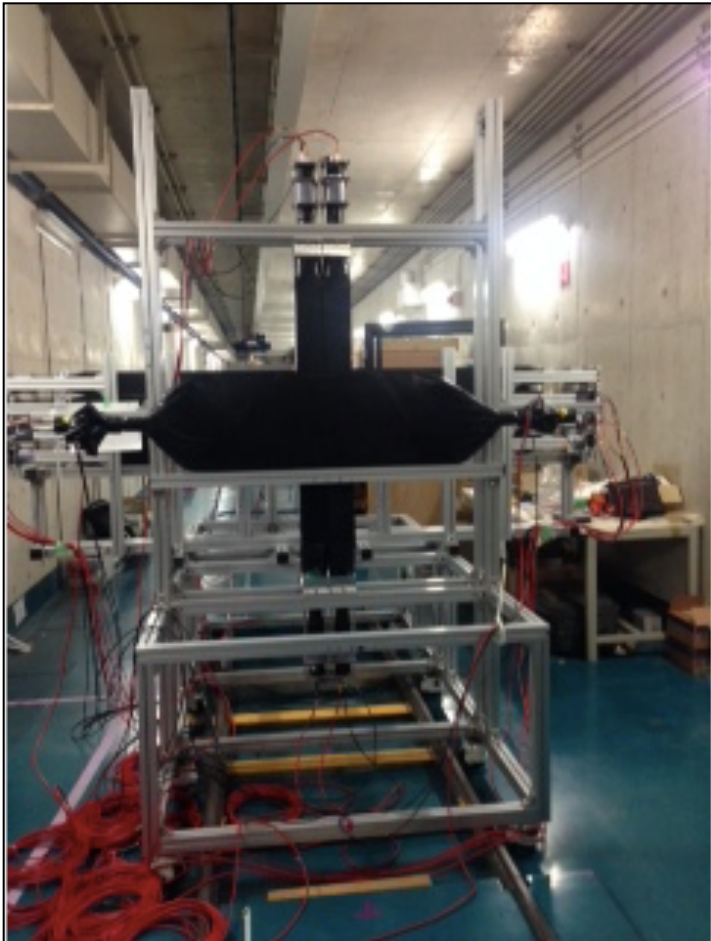
## Experimental tests:

- Cosmic ray test
- Beam setting test
- 392 MeV proton beam test [[~ 50 runs, 3 min/run](#)]
- 65 MeV proton beam test [[~ 50 runs , 3min/run](#)]

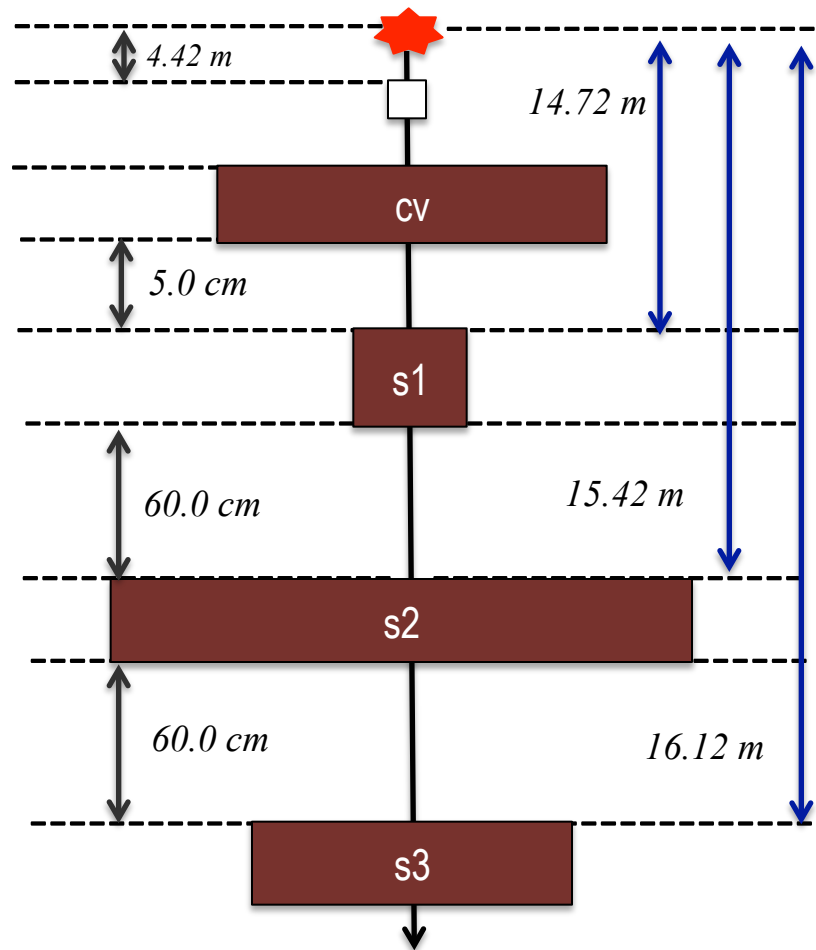


1. Hyunha, Minho, Jamin, Youngjun, Wonji, Kyunghwan, Hanseul, Jungwon, Jung Keun Ahn

# Data Collection - Experimental Setup<sup>1</sup>



Support Structure - Courtesy of Minho, Kim – Korea Univ.

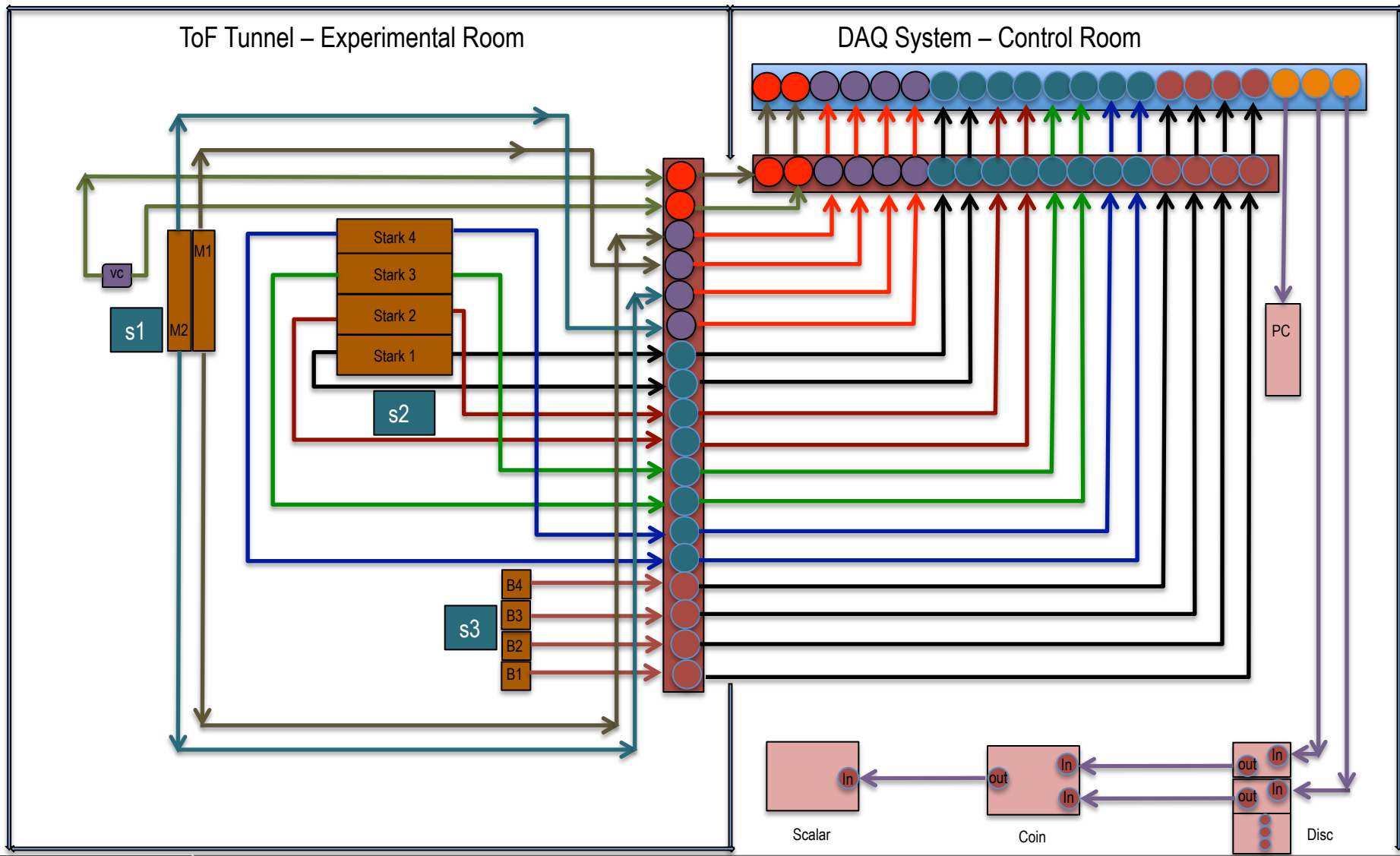


Not drawn to scale

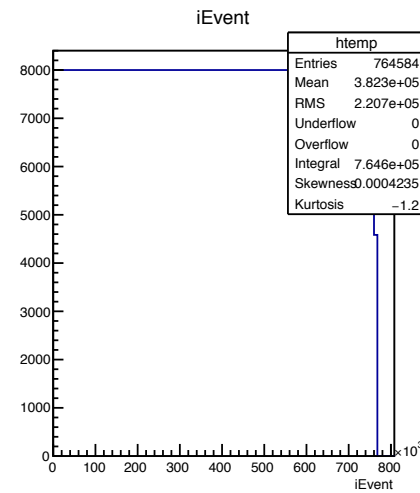
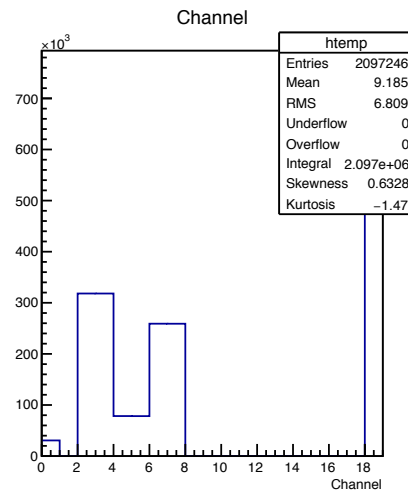
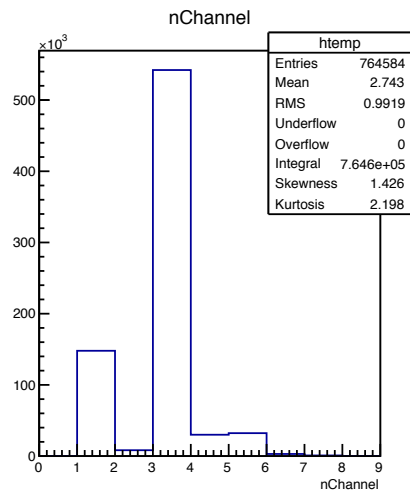
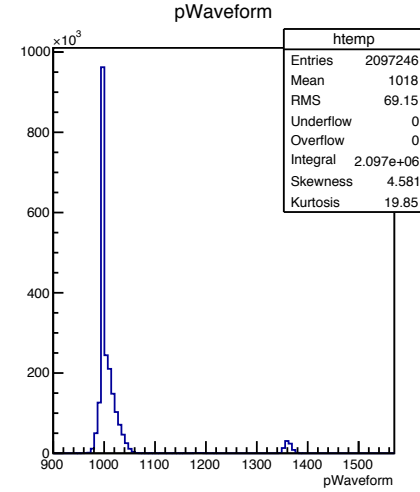
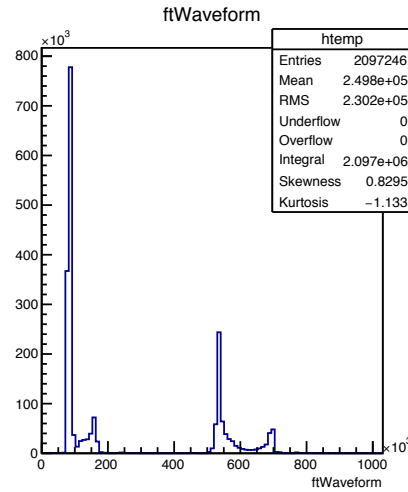
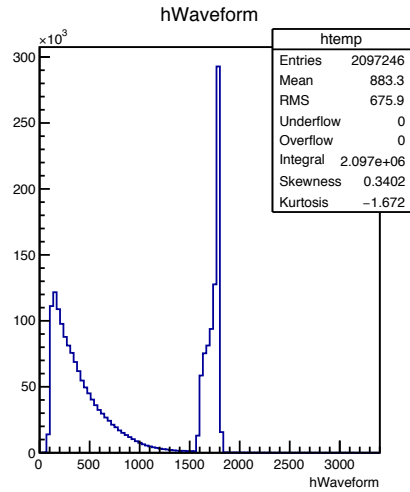


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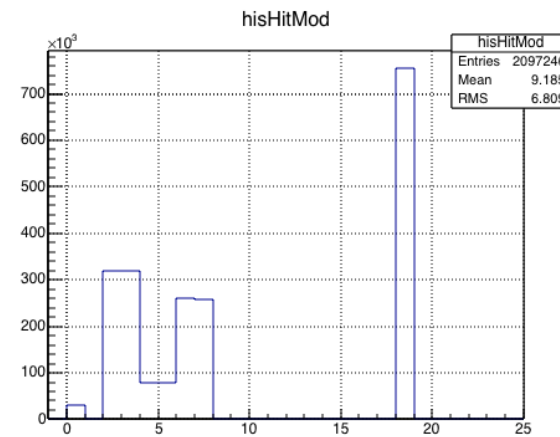
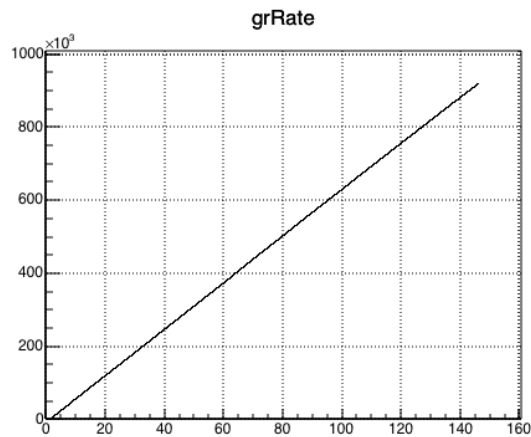
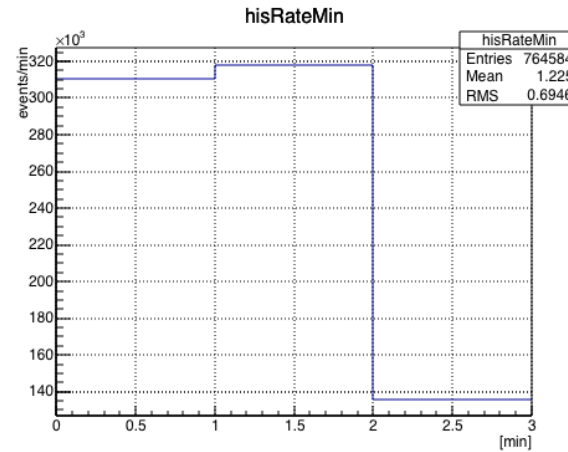
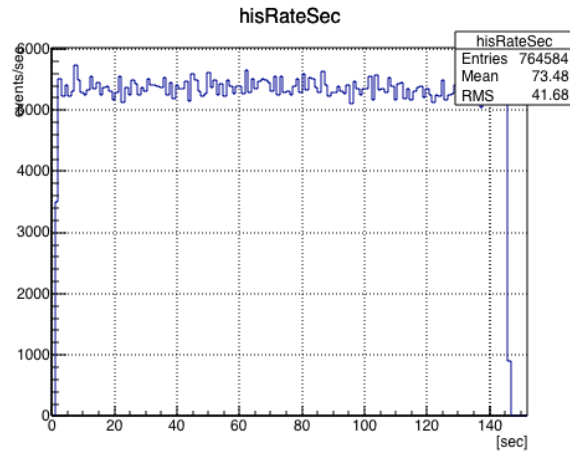
# Data Collection – Electronics Setup



# Data Analysis – beamNew\_11\_event

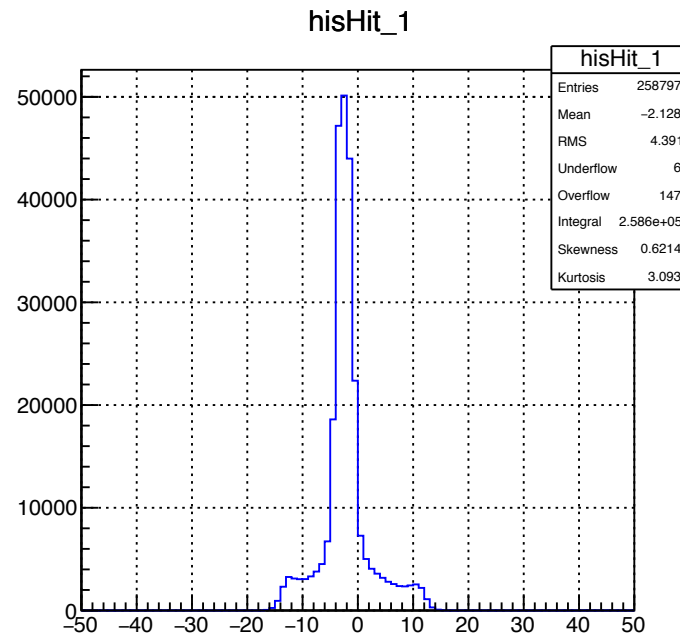
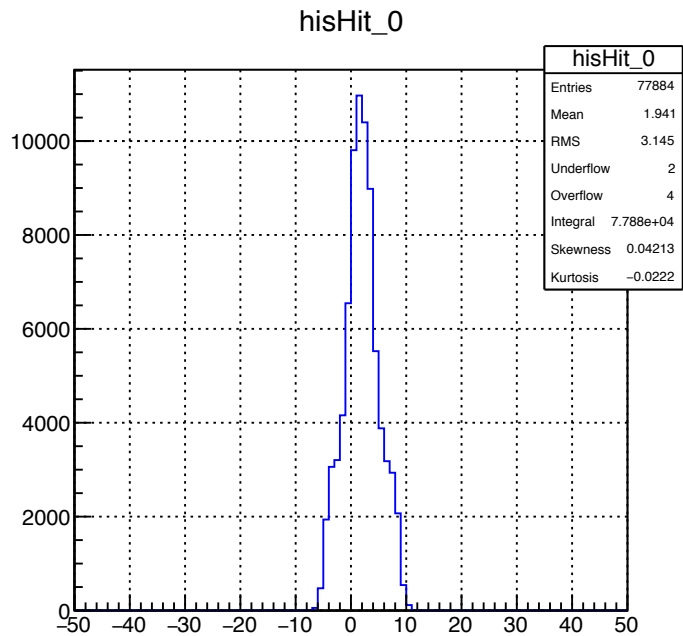


# Data Analysis – beamNew\_11\_event



# Data Analysis – beamNew\_11\_event

## Hit Position

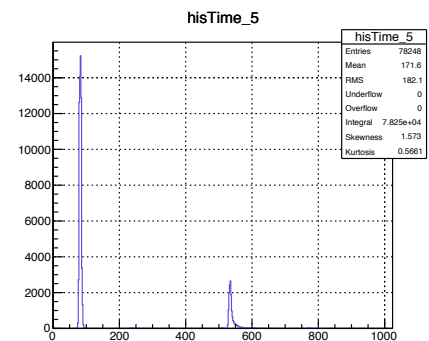
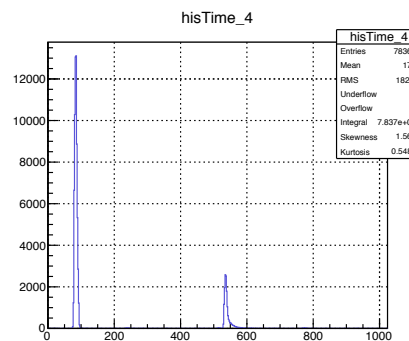
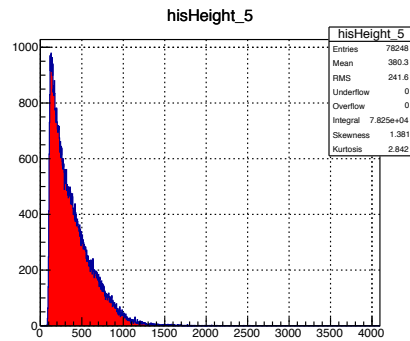
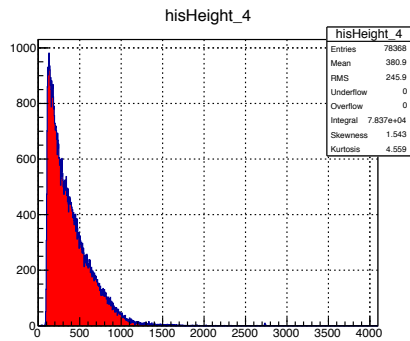
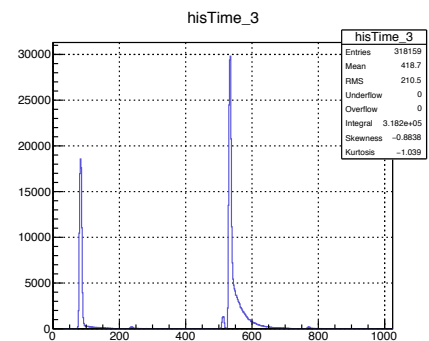
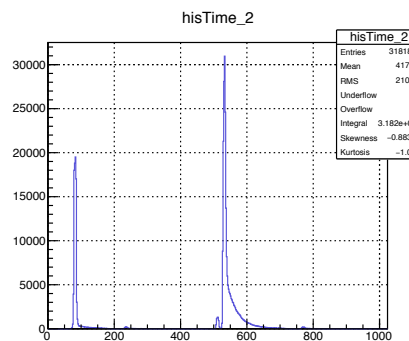
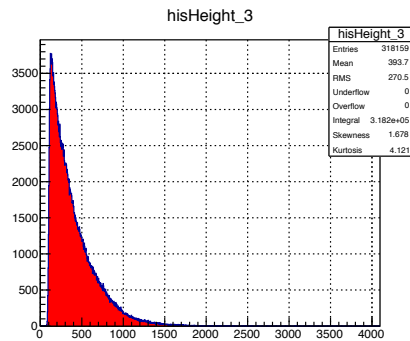
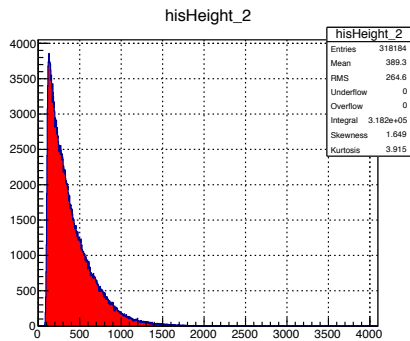




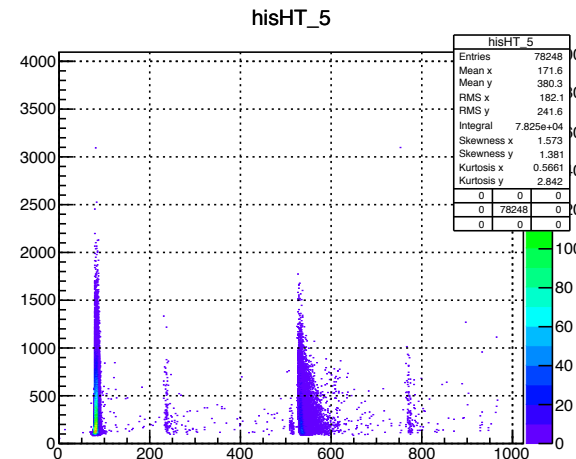
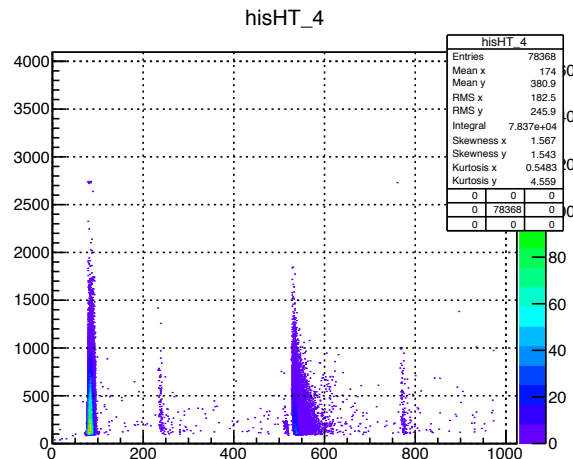
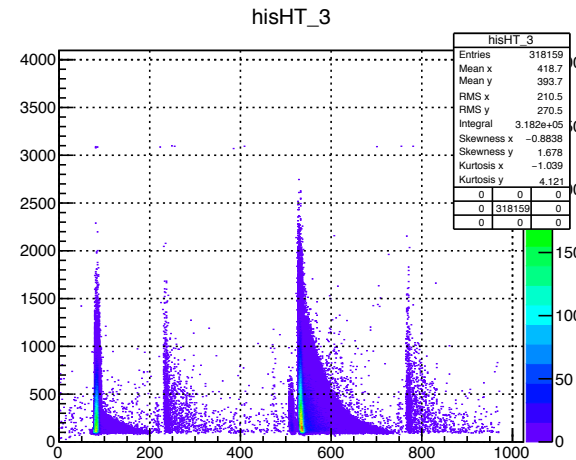
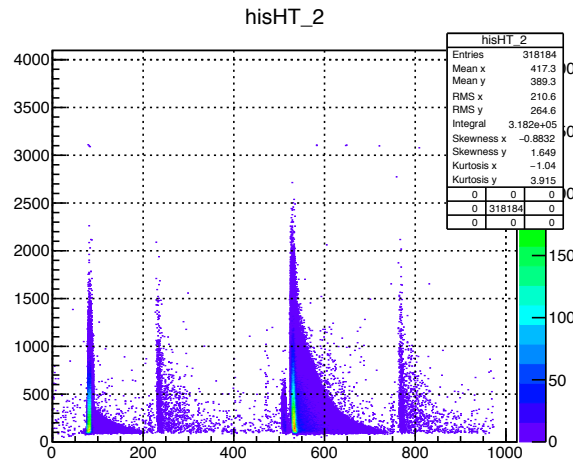
# Data Analysis – beamNew\_11\_event

Height

Time



# Data Analysis – beamNew\_11\_event



# Main Tasks – in vacation

## Data Analysis:

- Timing (Resolution)
- Position (Establish geom. center)
- ToF Distributions
- NE Distribution