Status report (3 Aug. 2016)

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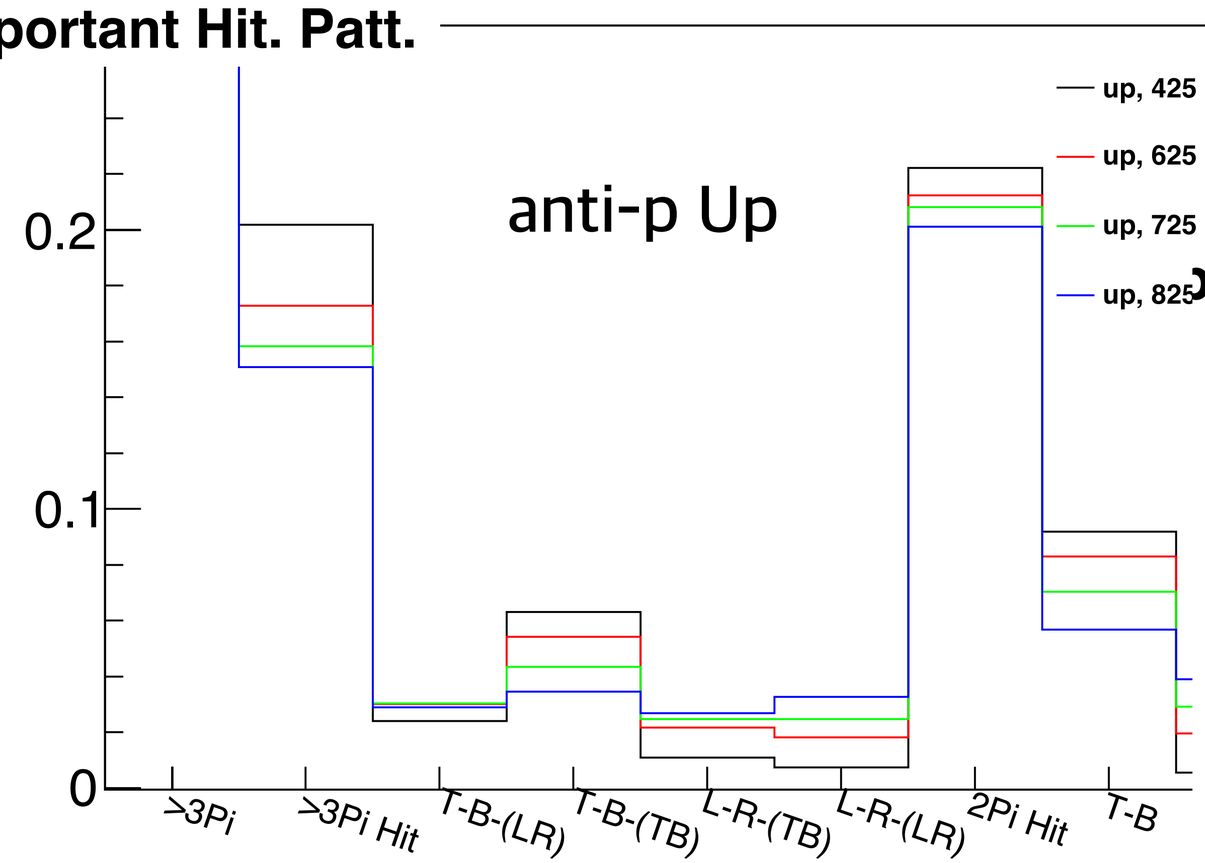
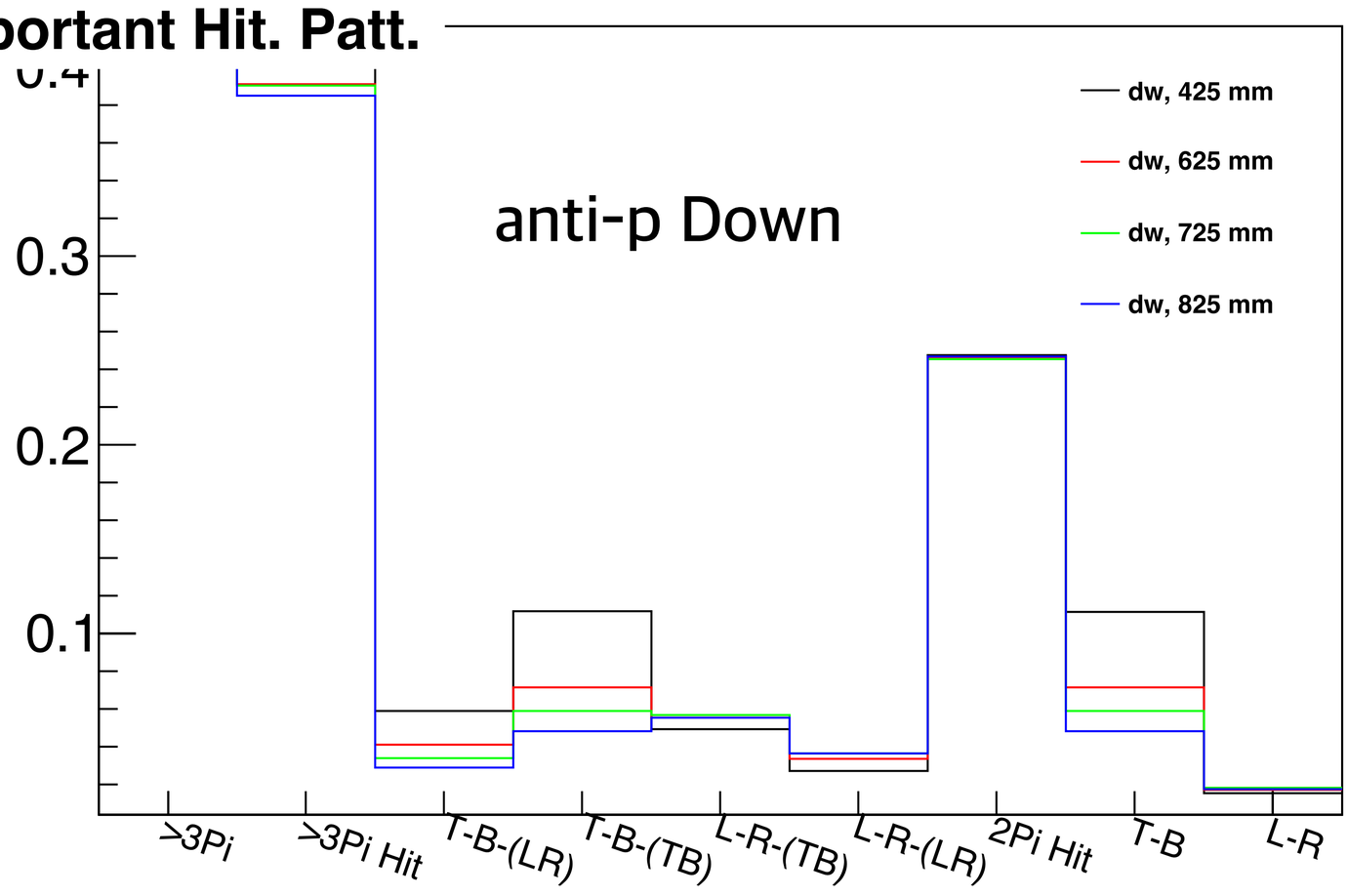
Simulation: Charged Pion

- Checked **the geometrical eff. of charged pions from the anti-proton.**
- anti-proton in the Chamber Top (l = 30 mm) & Bottom (l = 3 mm) (SUS)
  - Number of generated ones: about three pi^{+-}
  - Top / Bottom: Different result
  - Top detector height dependency exists (not so much).

Simulation: Charged Pion



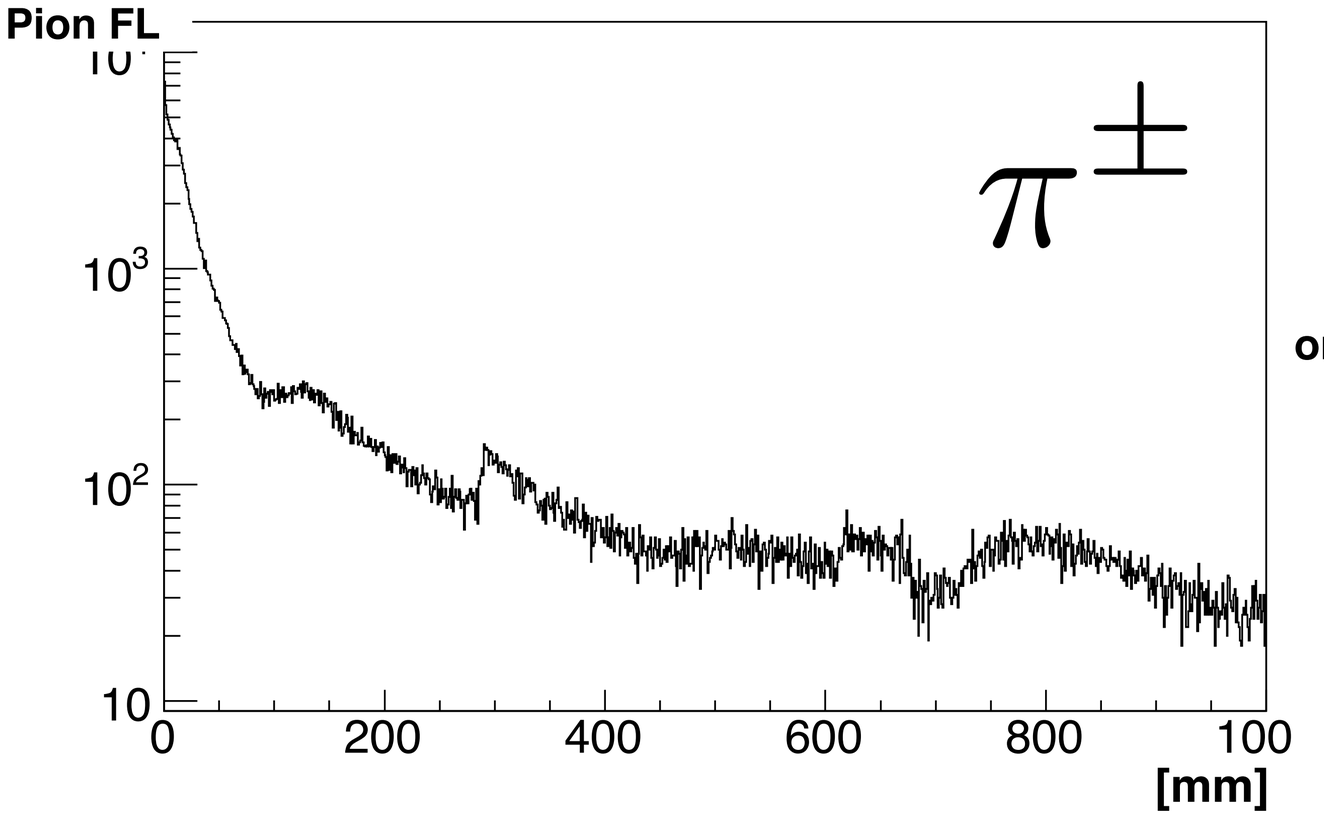


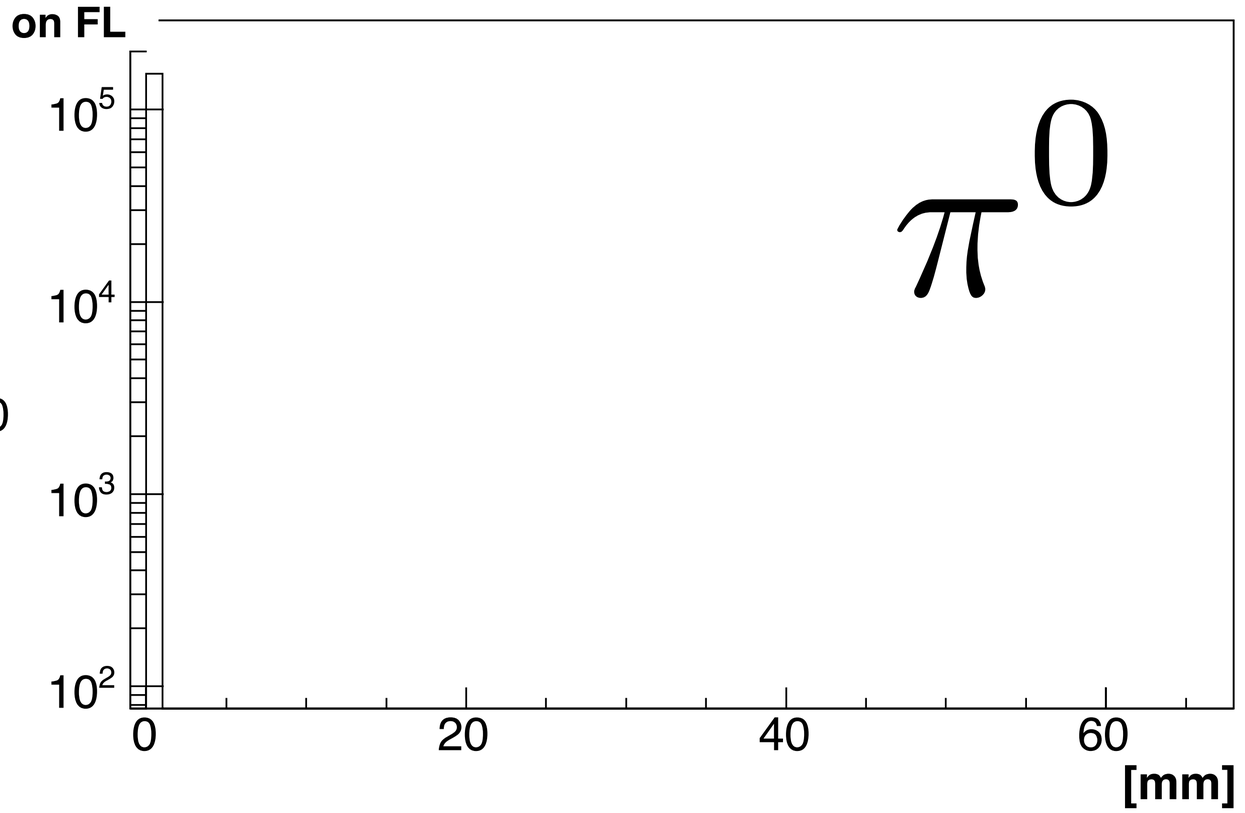
height↑: L-R hits↑ (area↑)
T-B hits↓ (Ω↓)

Simulation: Neutral Pion

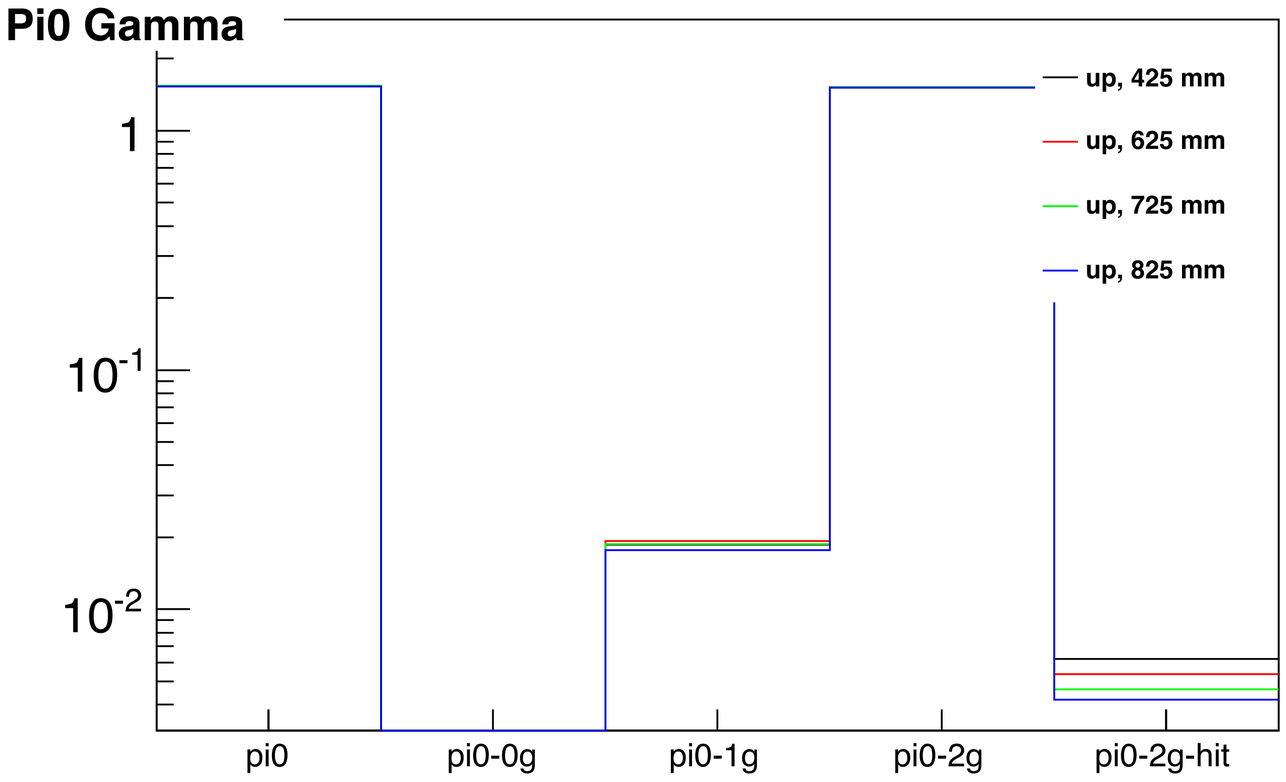
- Checked **the geometrical eff. of neutral pions from the anti-proton.**
- Actually, checked **the efficiency of gamma rays from the pions.**
- anti-proton in the Chamber Top (l = 30 mm) & Bottom (l = 3 mm) (SUS)
  - All pi^0 decay around the anti-proton.
  - Many gamma rays stop in the chamber.
  - Top / bottom and top detector height dependency exists.

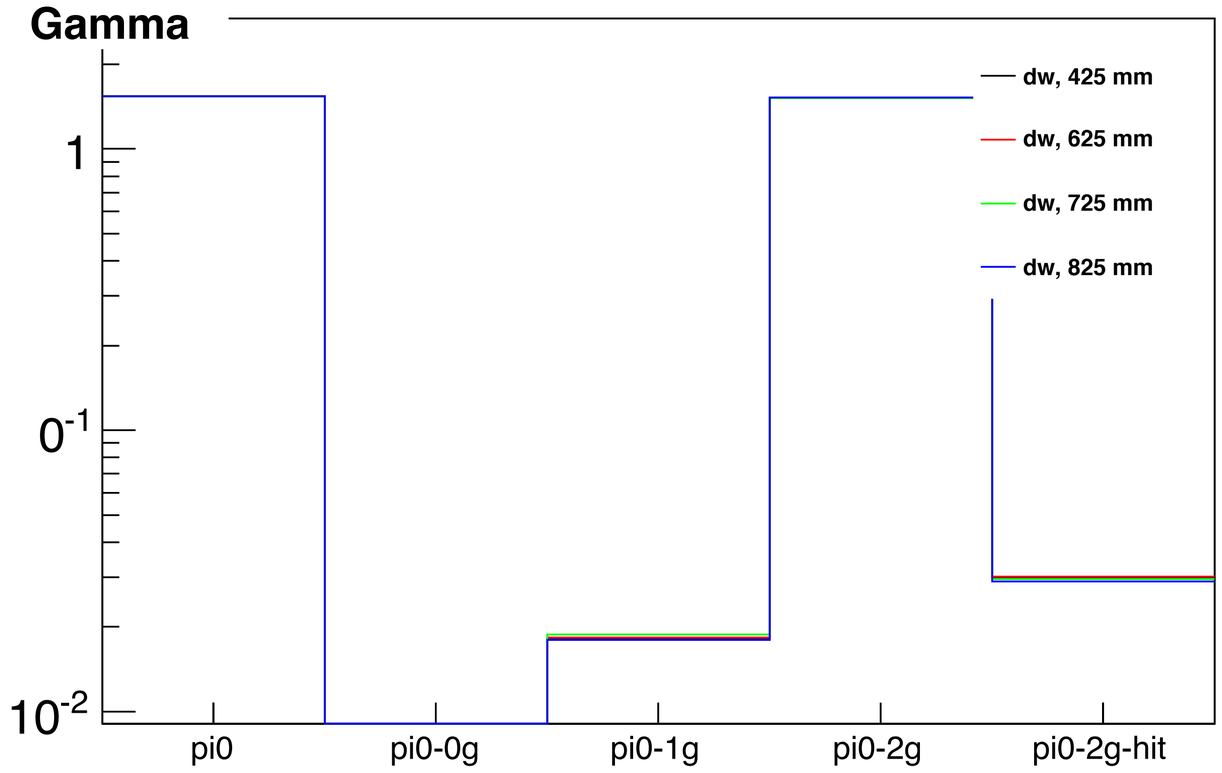
Simulation: Neutral Pion





Simulation: Neutral Pion

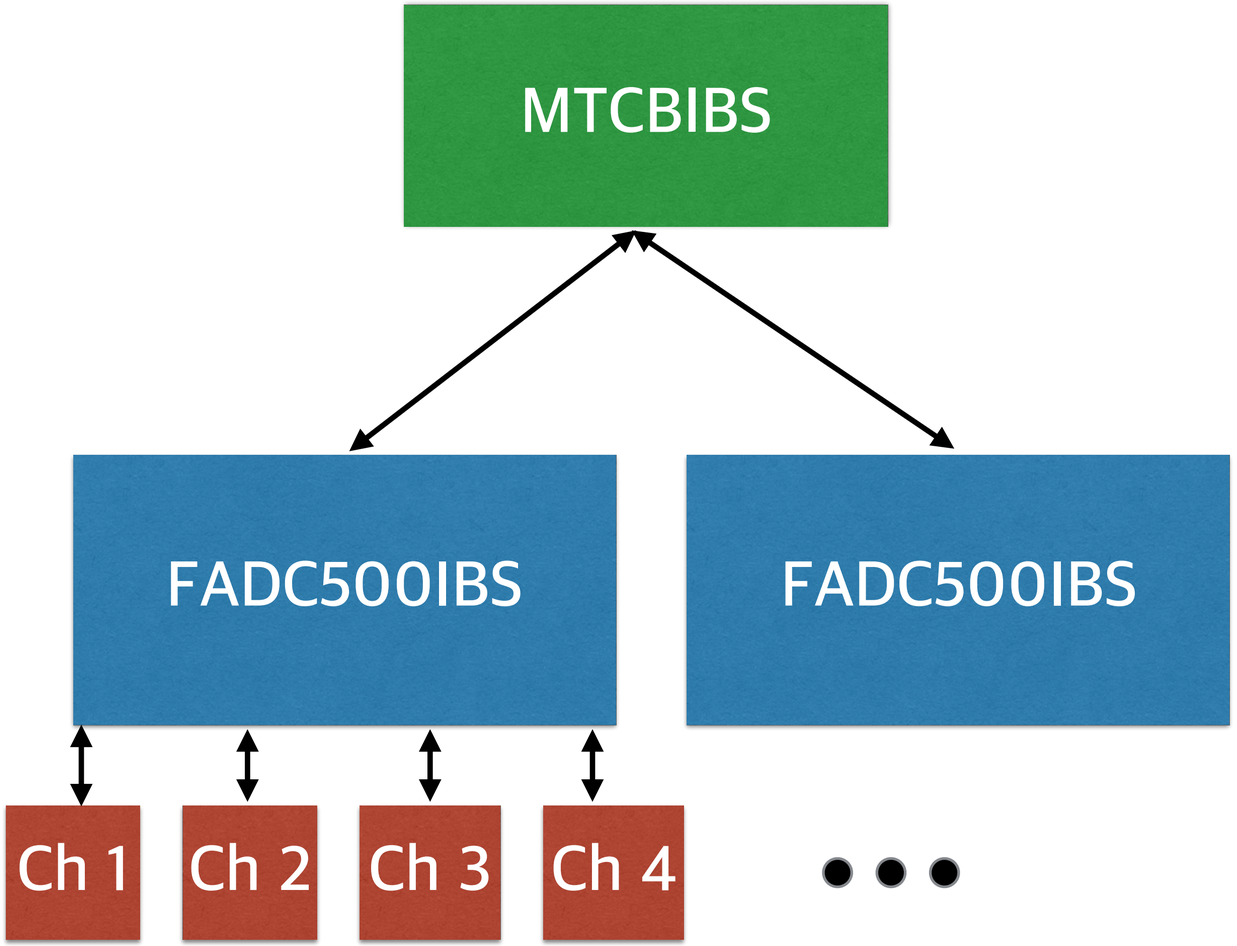




DAQ system: Using 2 FADCs

- Studied the system using **more than 1 FADC module**.
- “How does **the trigger system** work?”
- Checked the details of **MTCBIBS (the module for sync.).**

DAQ system: Using 2 FADCs

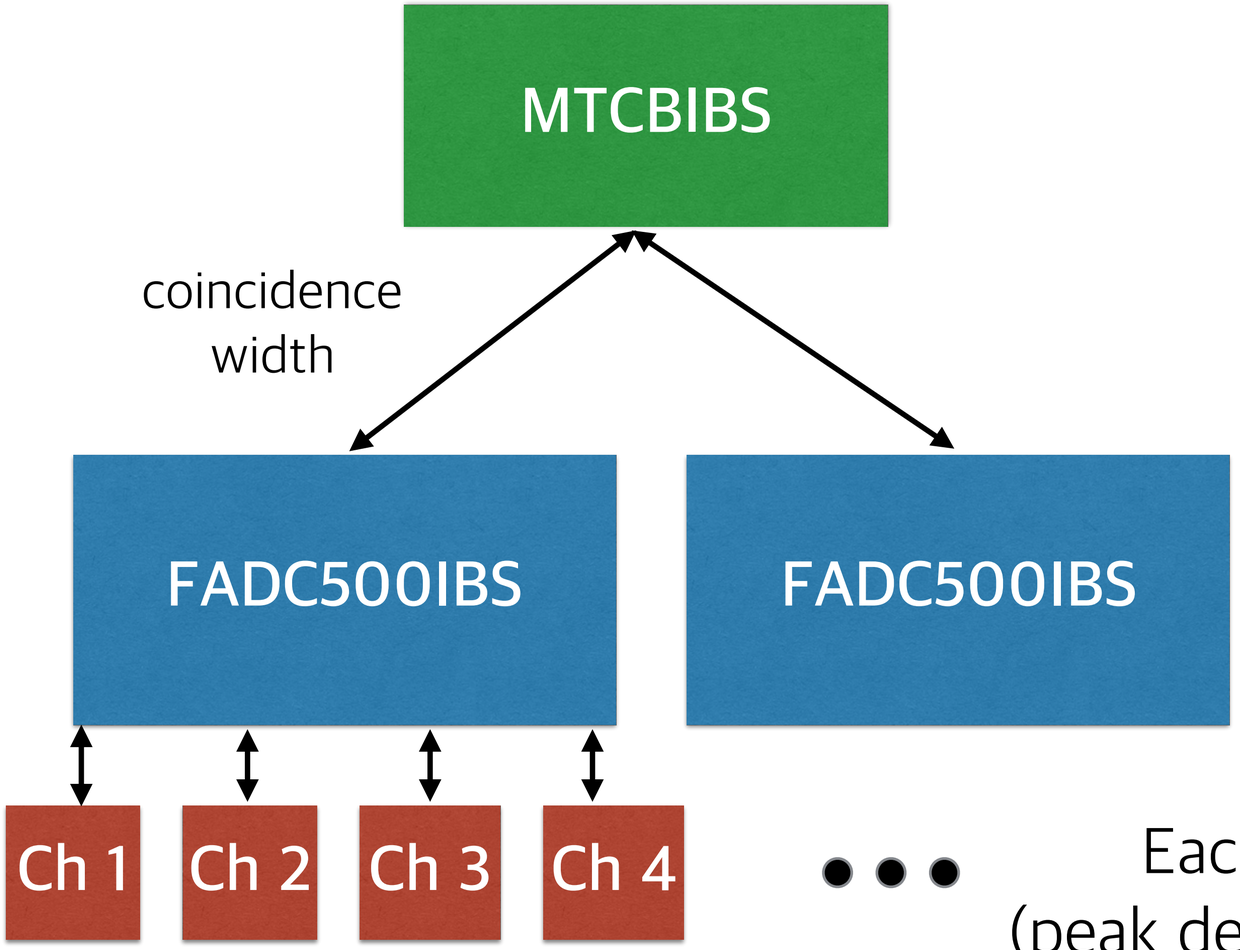


What to do

MTCBIBS: Control all modules
(setting, start, stop, …)

FADC: Store data,
Send them to PC

DAQ system: Using 2 FADCs



Trigger system

MTCBIBS: **Self** / Pedestal / SW
Multiplicity threshold

FADC: **Trigger Lookup Table**
(Any comb. of ch.)

Each ch.: **pulse count**, pulse width, peak sum
(peak defined by height, width, interval threshold)

DAQ system: Using 2 FADCs

- Successful to take data with using two modules of FADC.
  - 2 plastic bars (4 channels) / 2 PWO triggers (2 channels)
  - Data are still being taken.
- Modify the code to make a root tree from raw data.
  - Can manage any number of channels.
  - Merge into one root tree. [(New Ch ID) = ((Module ID) – 1) x 4 + (Ch ID)]