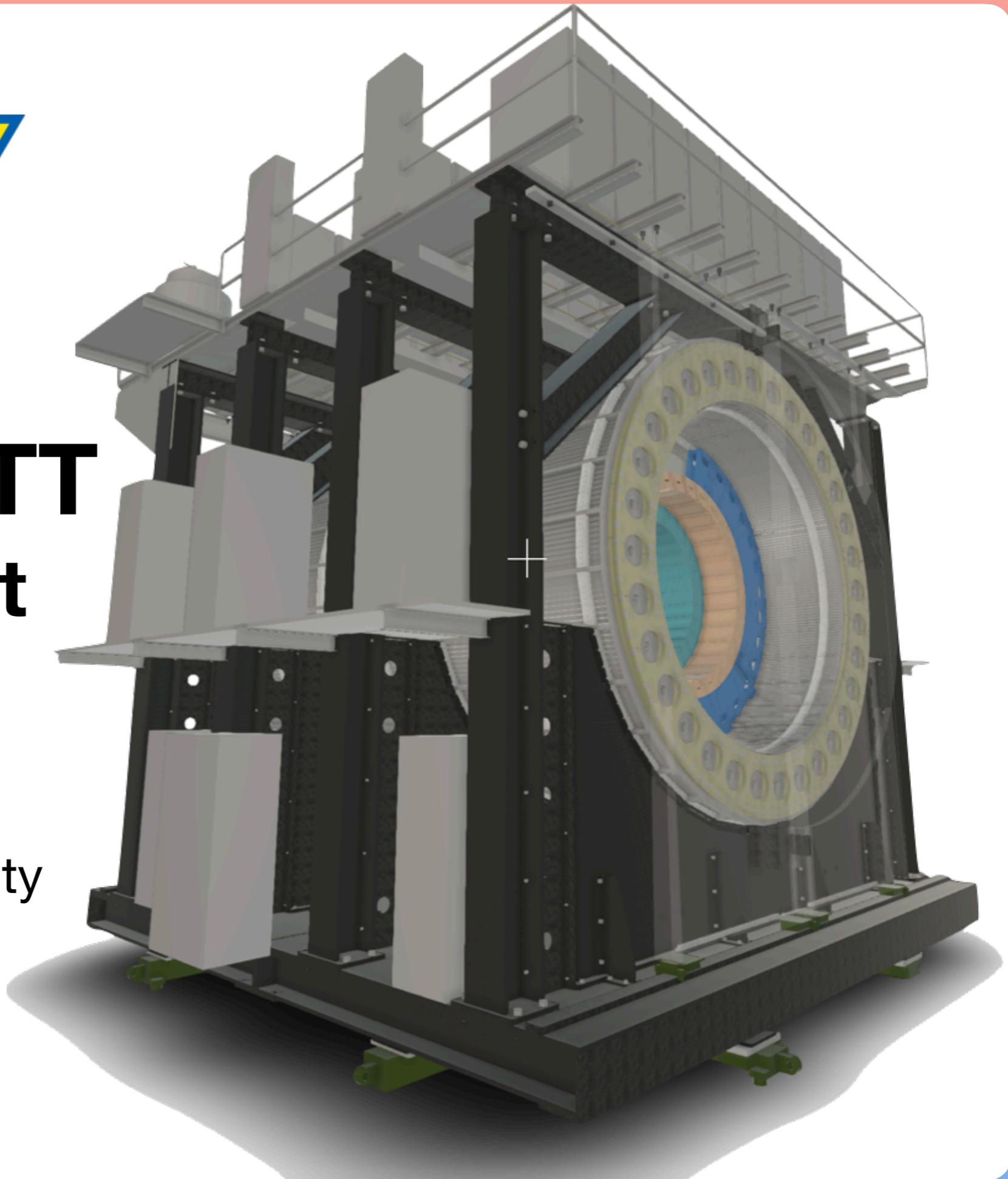# sPHENIX INTT
- Weekly Report

Cheng-Wei Shih,
Chia-Ming Kuo
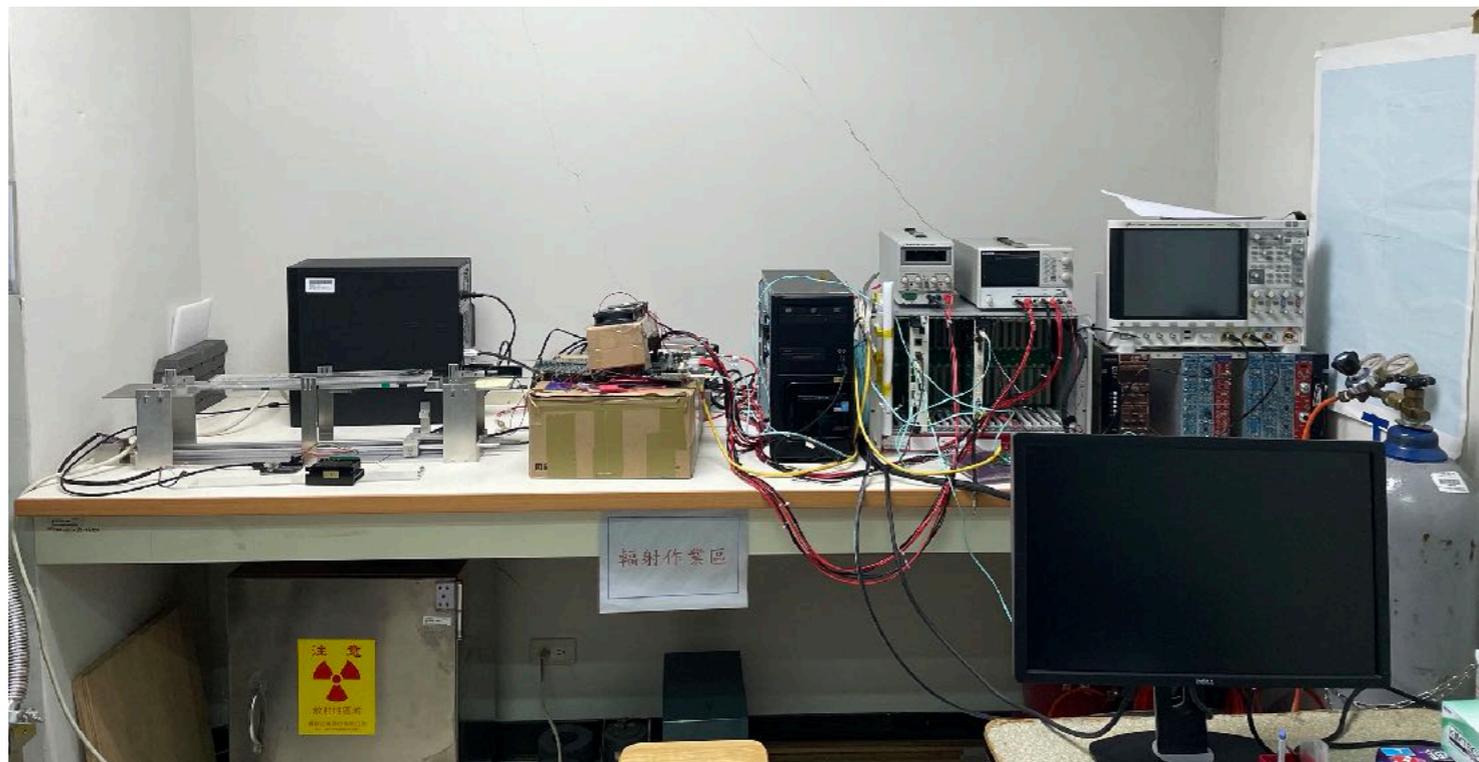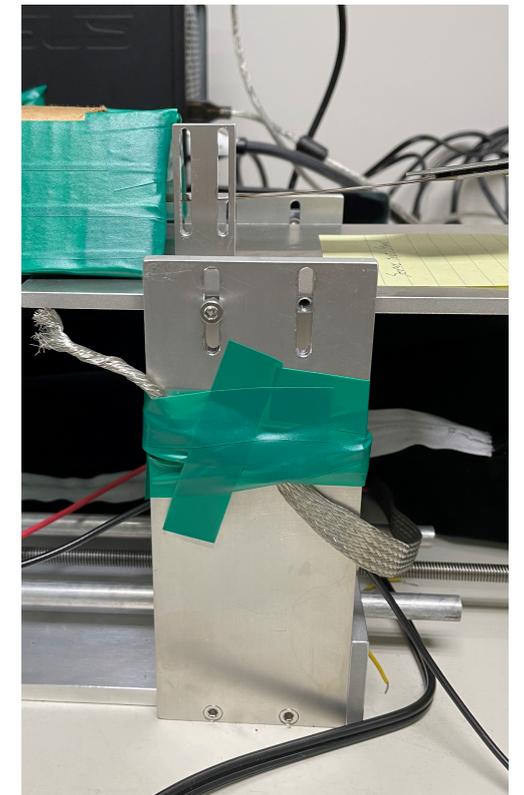
National Central University

2021/10/1

Testbench system in radiation lab

- The set up of Testbench system in radiation lab is finished.
  - The system can take source data with Sr-90 and calibration data.

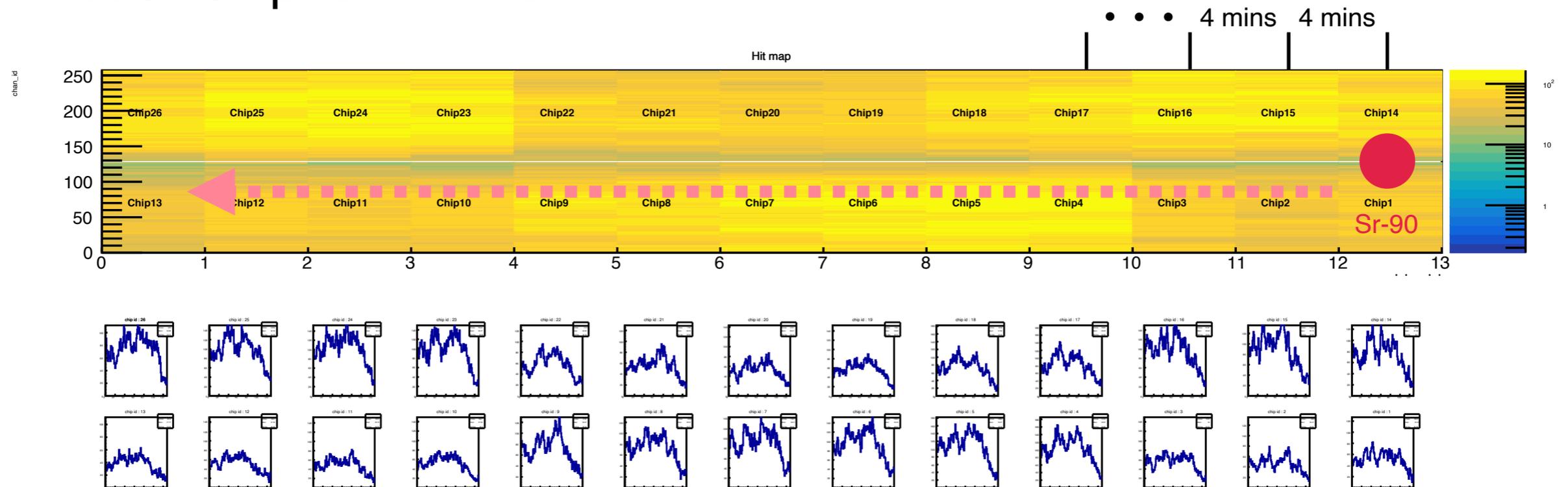External trigger mode   GND cable on support

Ladder

Sr-90

By switching FEM-IB, PCIE cable and PC, we can have 2 Testbench systems, one in 923 (calibration test) & one in radiation lab (source test)

Source test result

- Plan :
  - External trigger mode.
  - Sr-90 fixs at middle of ladder in transverse axis, and stays at each chip for 4 mins.


At least 1 event for each channel

Summary

- Source test :
  - The set up of Testbench system in radiation lab is finished.
  - 4 mins for each chip is enough to make sure at least 1 signal for each channel under current setup.
  - It takes ~ 2 hours to finish the source test for one ladder.

- 15 ladders assembled in Taiwan. C-1 : 11 ladders
- We are moving to next half-ladder assembly session.

Back up

Taiwan INTT team
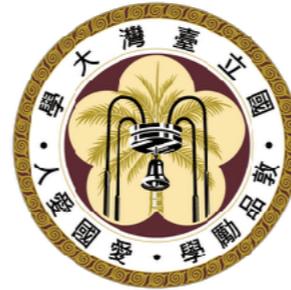
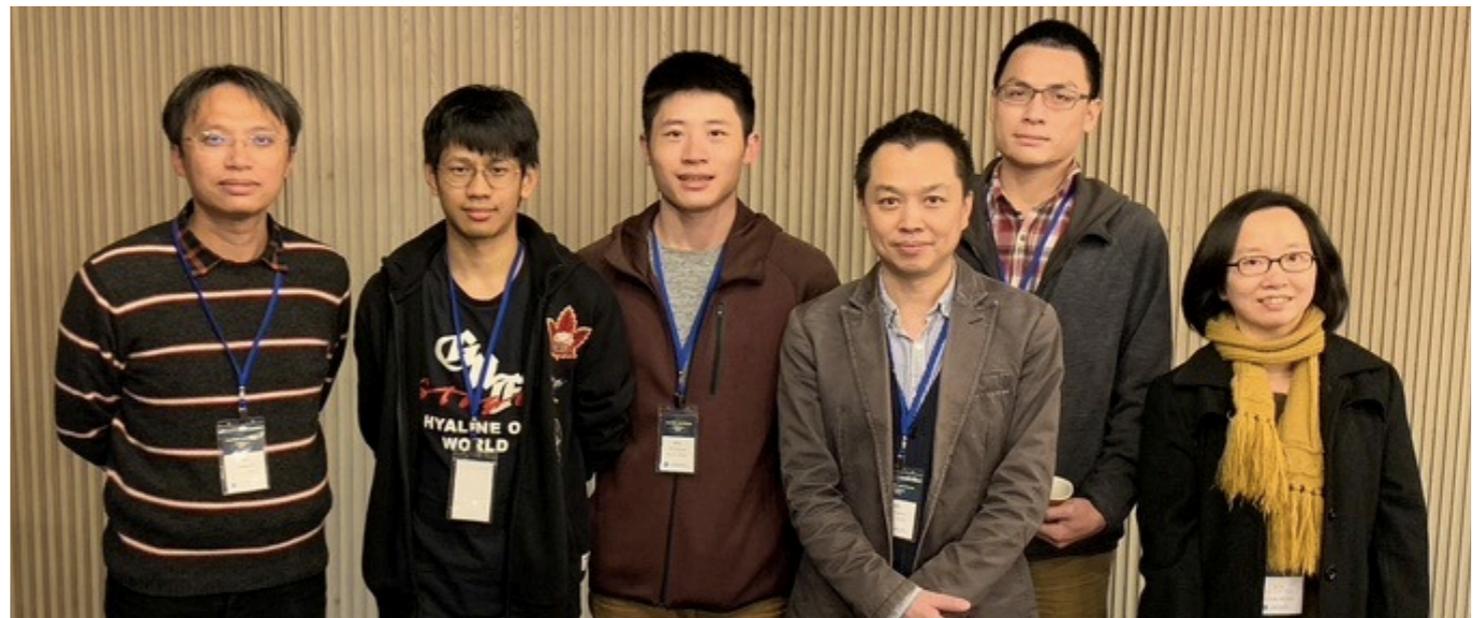
Ou-Wei Cheng   Kai-Yu Cheng   Chia-Ming Kuo   Cheng-Wei Shih   Lian-Sheng Tsai
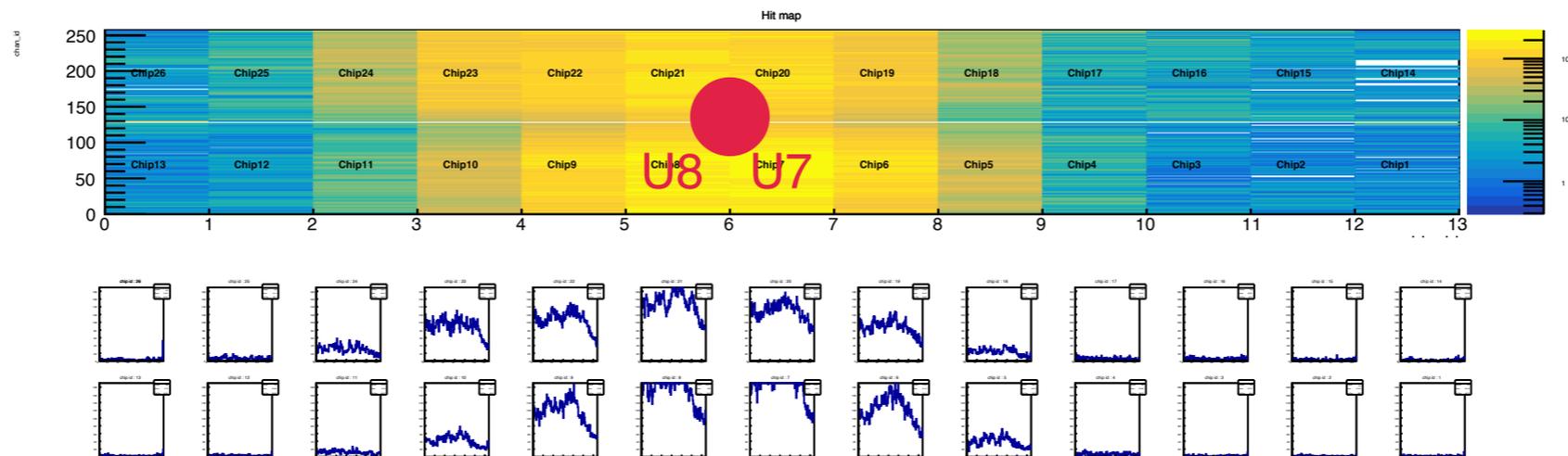   Wei-Che Tang   Rong-Shyang Lu   Jenny Huang
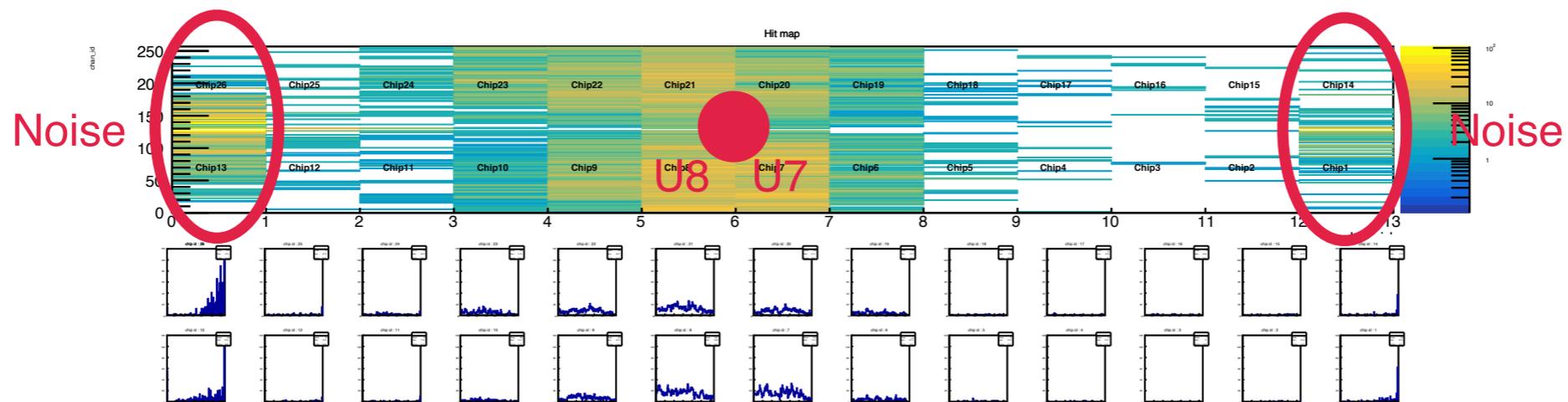
Source test result

- Self-trigger (silicon signal ==1 → FEM signal =1)

  Sr-90, source position fixed at U8 & U7   adc0 is set at 40 to reduce the noise (original adc0 : 15)

- External trigger (silicon signal ==1 && sci signal ==1 → FEM signal =1)

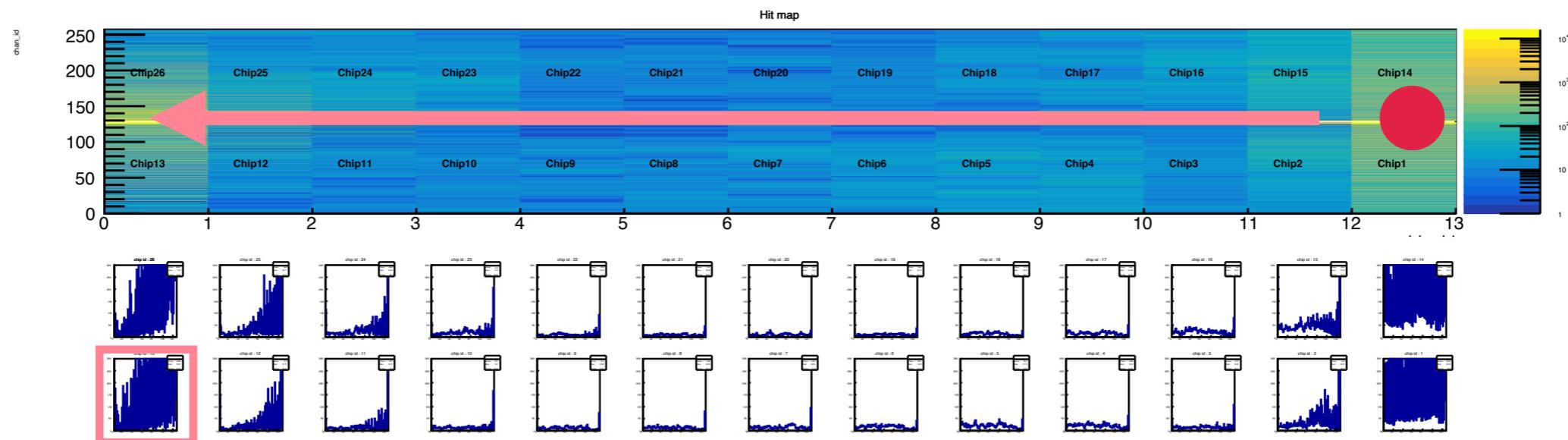 Source fixed at U8 & U7   adc0 is set at 25 to reduce the noise

  Some chips around the edge seems to be noisy
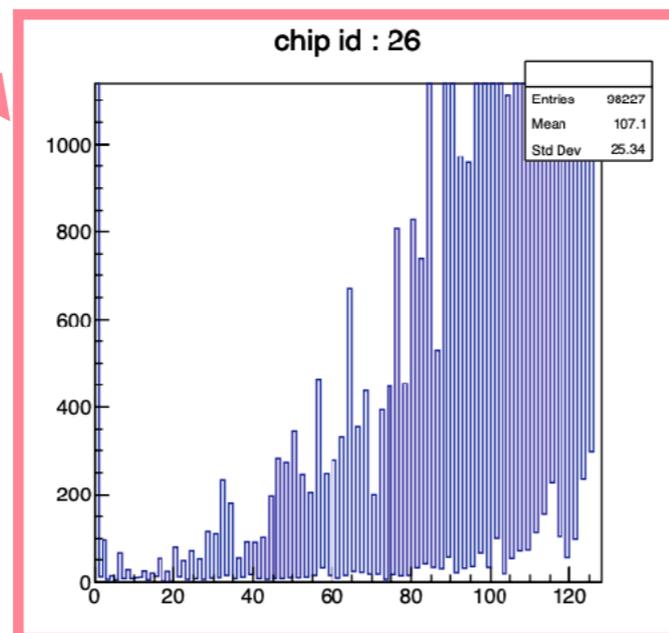
Source test result

- External trigger (silicon signal ==1 && sci signal ==1 → FEM signal =1)

Source move along the HDI   adc0 is set at 25 to reduce the noise

Fishbone behavior

- The fishbone behavior appeared when the motor is in operation.
- JP group also saw this behavior before.
- It seems to be the problem from GND.

- Possible solution : connecting a ground wire to mechanical support