Progress and Plan

Mingyi Dong

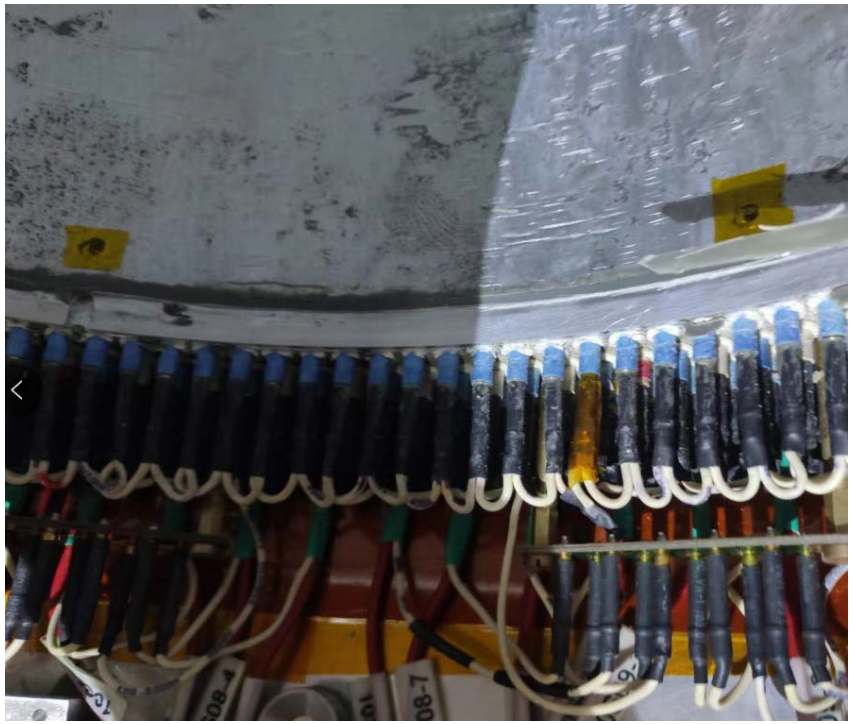
2024.9.30

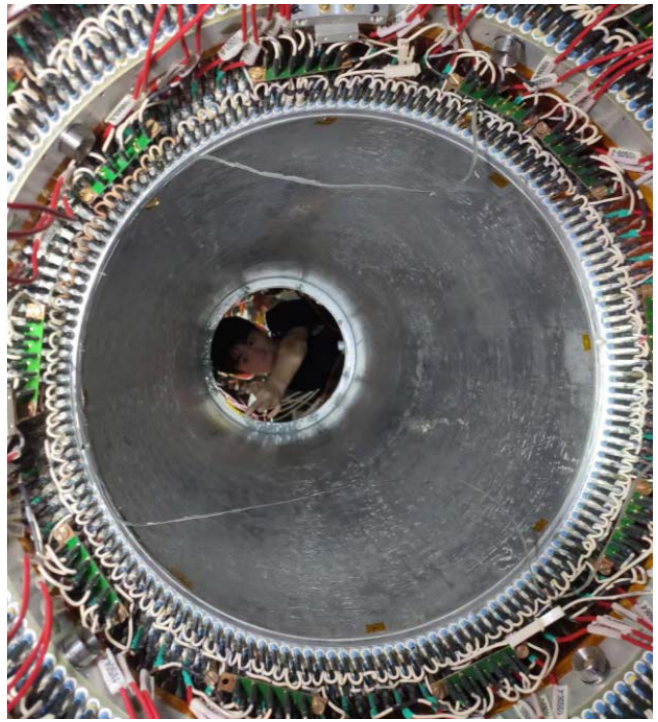
Plan for next week

	Planned tasks last week	Time needed (day)	person in charge	Status
1	Replace the dead preamps of MDC step part	4	Sun Yunhua	Done
2	leakage checking and sealing	2	Mingyi Dong, Jing Dong	Done
3	Laser measurement of MDC position after removing the iMDC	1	Lingling Men	Done
4	High voltage training and cosmic-ray tests	3	Mingyi Dong	Done
5	Recover the shielding plate	2	Mingyi Dong	West side: finished East side: Will install the shielding plates after insertion of the CGEM

Scheme of installation of the east flange2

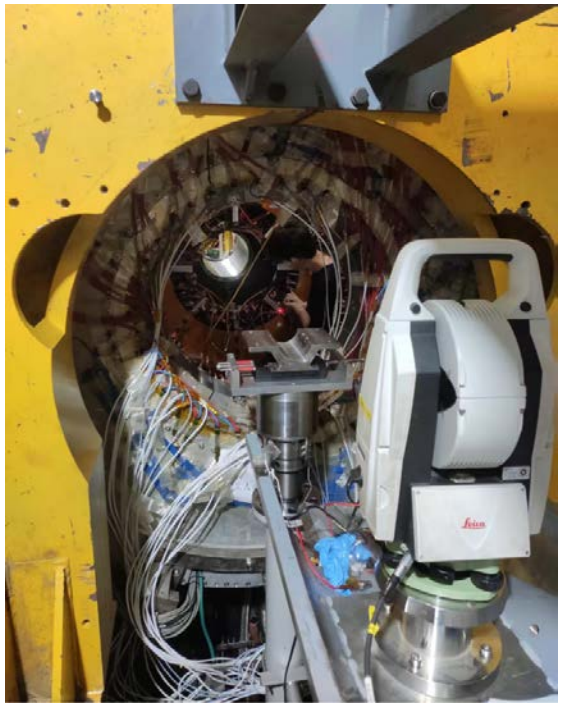
- September 23
  - Discussion with Stefano and Jinyu about the CGEM cable support on the EEMC during cabling
  - Discussion on the modification of east flange, z direction will not change. A portion of the glue on the Al ring will be removed, leaving only 2.5mm
  - Did the test of removing glue on the aluminum ring

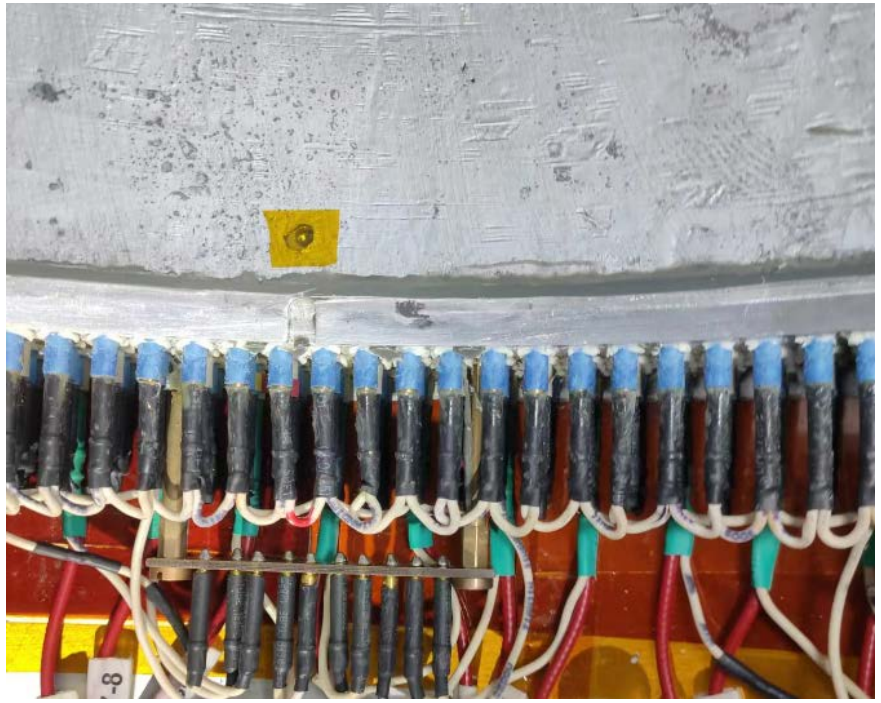




Laser measurement and changing preamp

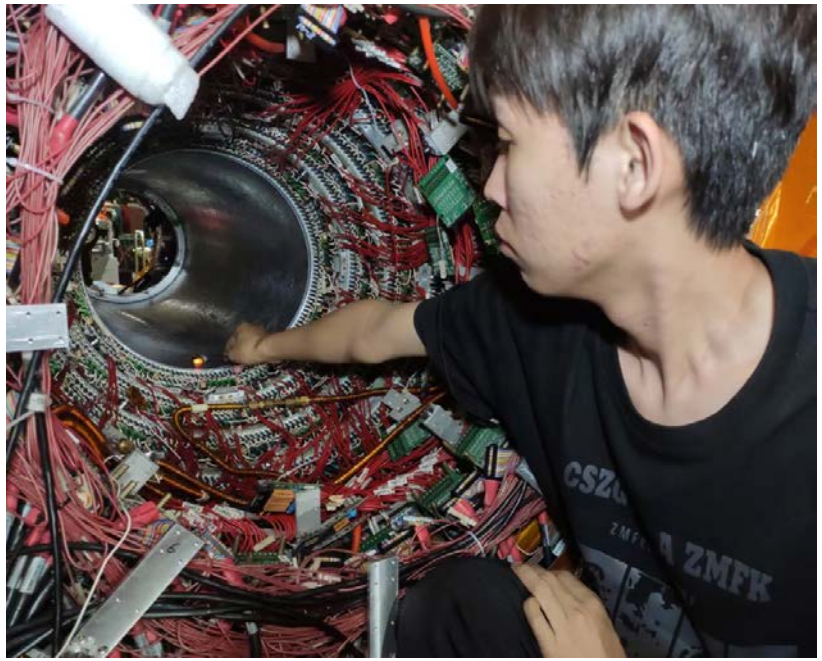
- September 24
  - Laser measurement of MDC position after removing the inner DC (two times on west side, one time on east side)
  - Changed the dead preamplifiers of the step parts (6 preamplifiers were changed)
  - Removed the glue on the Al ring in z direction, leaving only 2.5mm

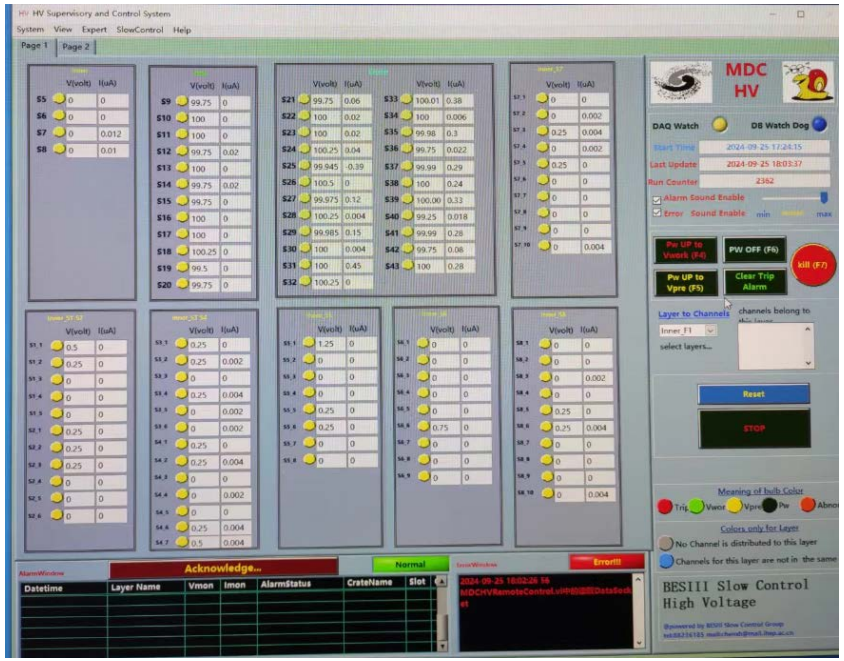




Cavity measurement and HV test

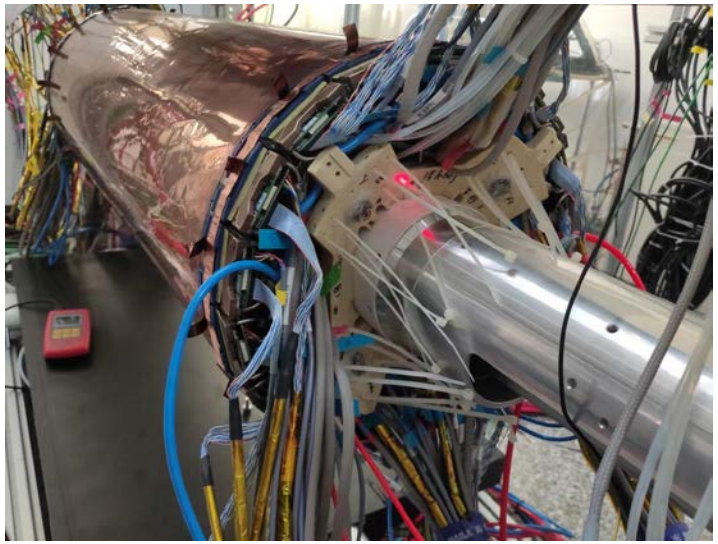
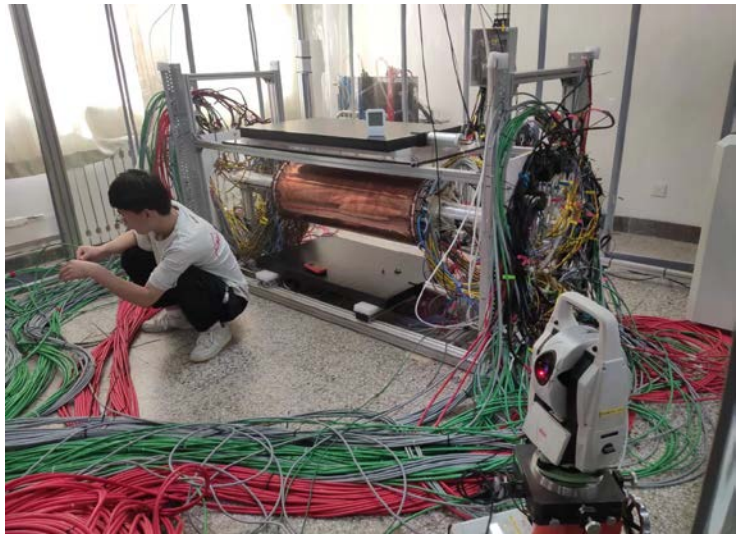
- September 25
  - Laser measurement of MDC position on east side (the second measurement), including the diameter of the cavity
  - Try installation of the east flange. It is ok
  - Measured the length between the east flange 2 and the aluminum ring at the west end of the CF cylinder (with Stefano) (test result: 1044mm, Very good agreement with design value)
  - Powered on MDC High voltage, with a voltage of 100V

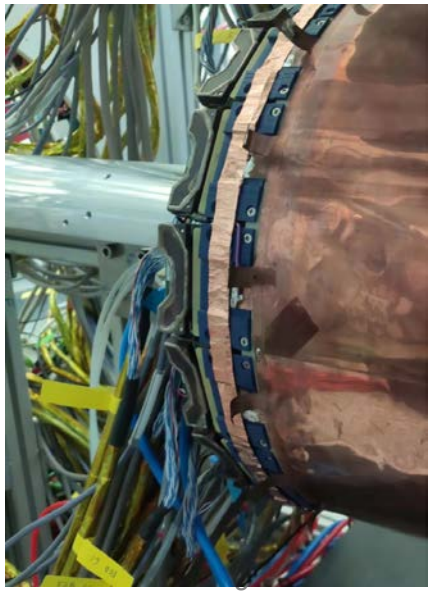




Laser measurement of CGEM

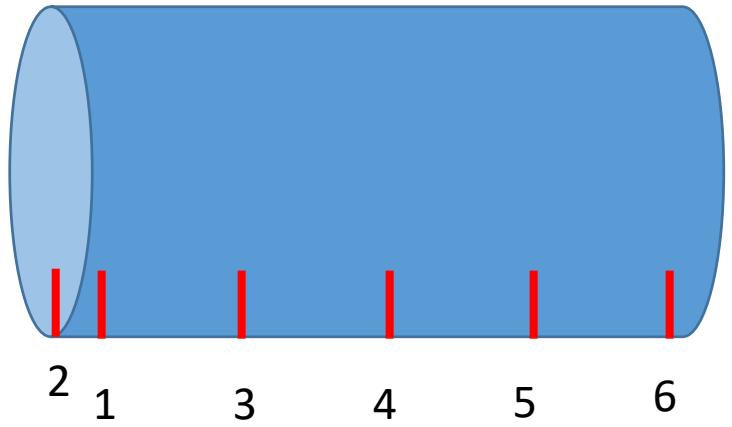
- September 25
  - Laser Measurement of CGEM in room106
  - The diameters of the some area is larger than design. Italy colleague said it would be reduced to the design size
  - Today we arranged another laser measurement



Test results

circle	diameter	Maximum deviation	Minimum deviation
1	365.532	0.14633	-0.192
2	365.107	0.104	-0.115
3	365.531	0.129	-0.114
4	365.553	0.176	-0.218
5	365.411	0.279	-0.251
6	365.314	0.068	-0.068

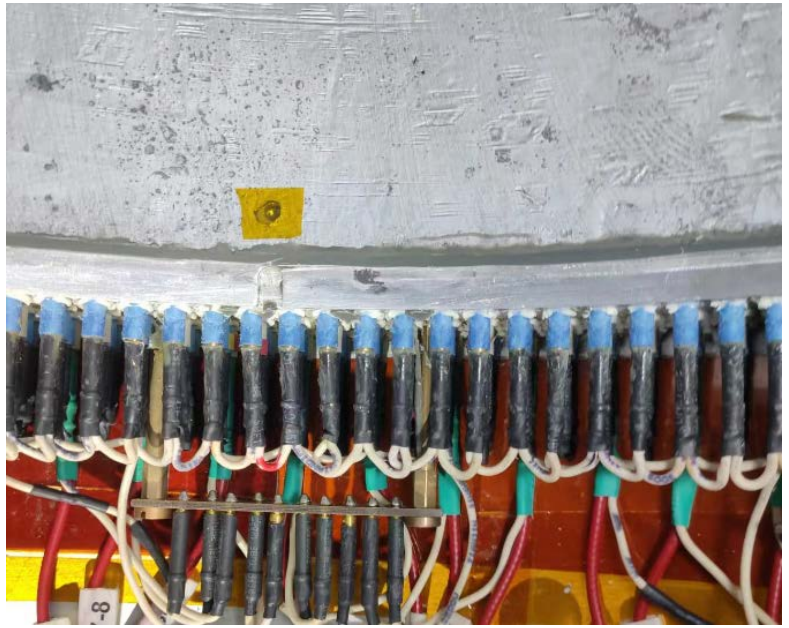


About 8 points were measured in each circle

- Design value of the cavity diameter： 365mm. The test results are little larger than design value
- Test result of length between the east flange 2 and the aluminum ring at the west end : 1044mm, Very good agreement with design value

Restoration of the step part

- September 26
  - MDC HV training. MDC high-voltage training reached 2100V, but half an hour later, layer12 had a HV trip
  - Tested MDC with Cosmic- rays
  - Seal the 8 screw holes on the CF cylinder with epoxy (with screws inside the holes)
  - Cut the short part of the rail, and welded with the CGEM connection part

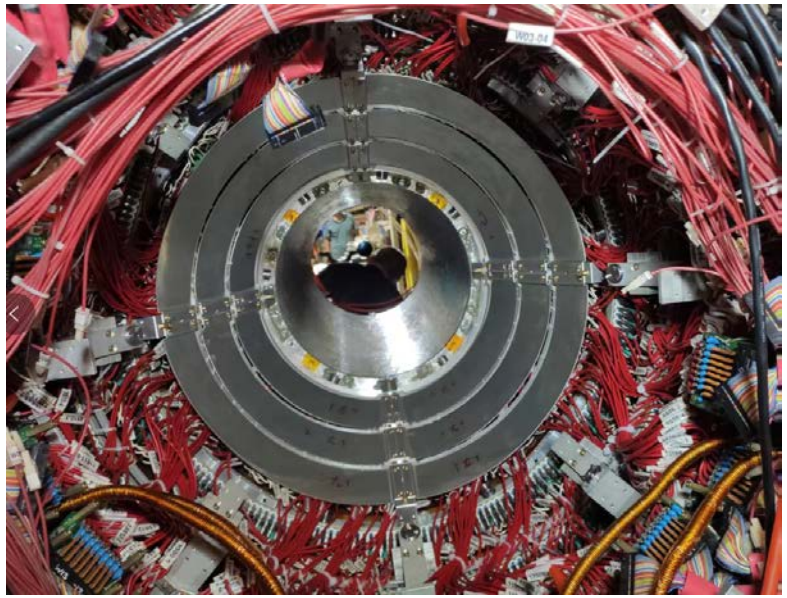


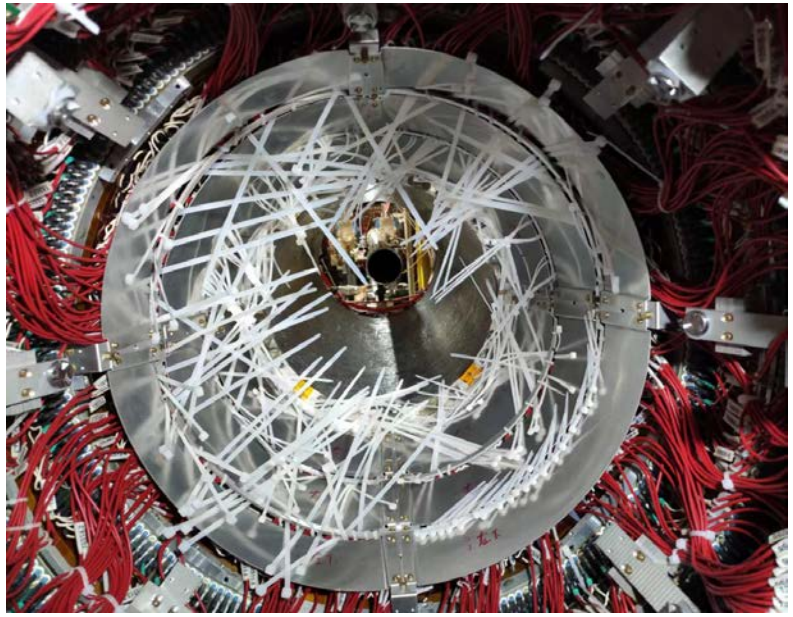
CGEM mockup lifting test

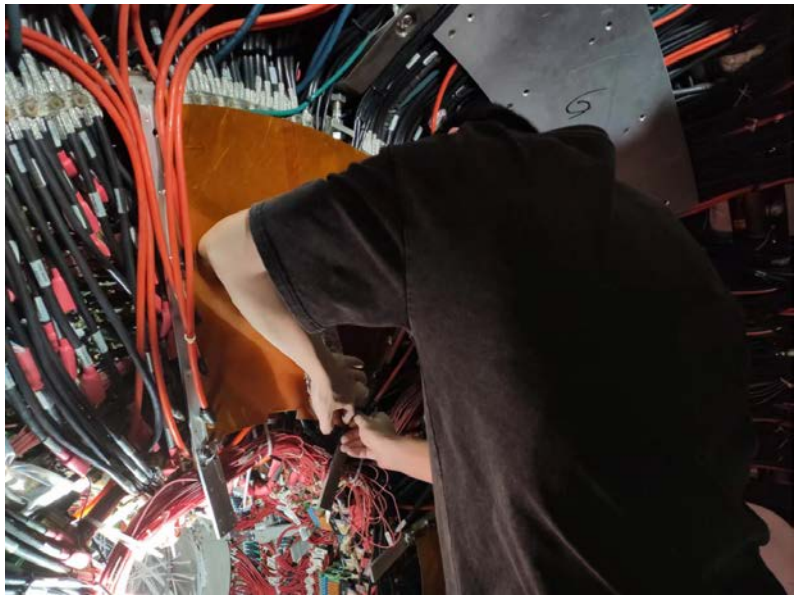
- September 27
  - Performed CGEM mockup lifting test (from the south platform to the detector region)
  - Changed the dead preamplifiers of the outer chamber (11 preamplifiers were changed)
  - Checked the leakage around the screw holes, no leakage with the screws inside the holes
  - Resealed the CF cylinder with LOCTITE 609

HV training and Cosmic-ray test

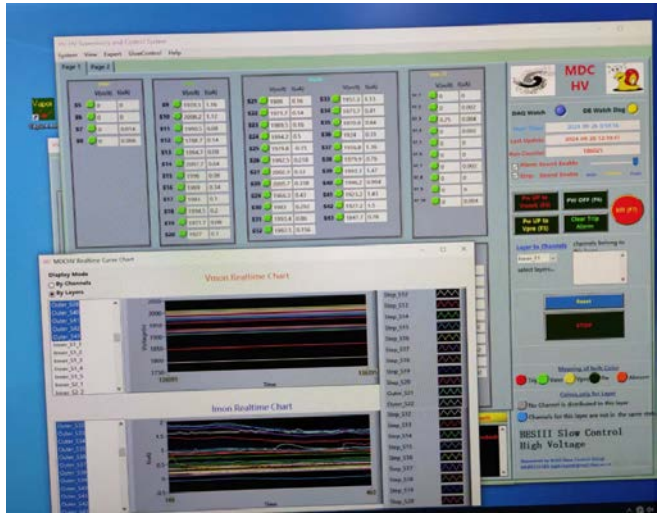
- September 28
  - HV training, solved the HV problem of layer12 (Changed the preamp, but found feedthrough connector of E12_3-6 fell off, almost touching the Al plate)
  - Tested MDC with cosmic-rays, one noise board was found
  - Installed the new shielding plates for MDC step part on west side. The east shielding plates will be installed after insertion of the CGEM (there is interface)
  - Recovered the installation of the shielding plates of the outer chamber
  - The work related to the removal of the inner chamber has been completed as scheduled



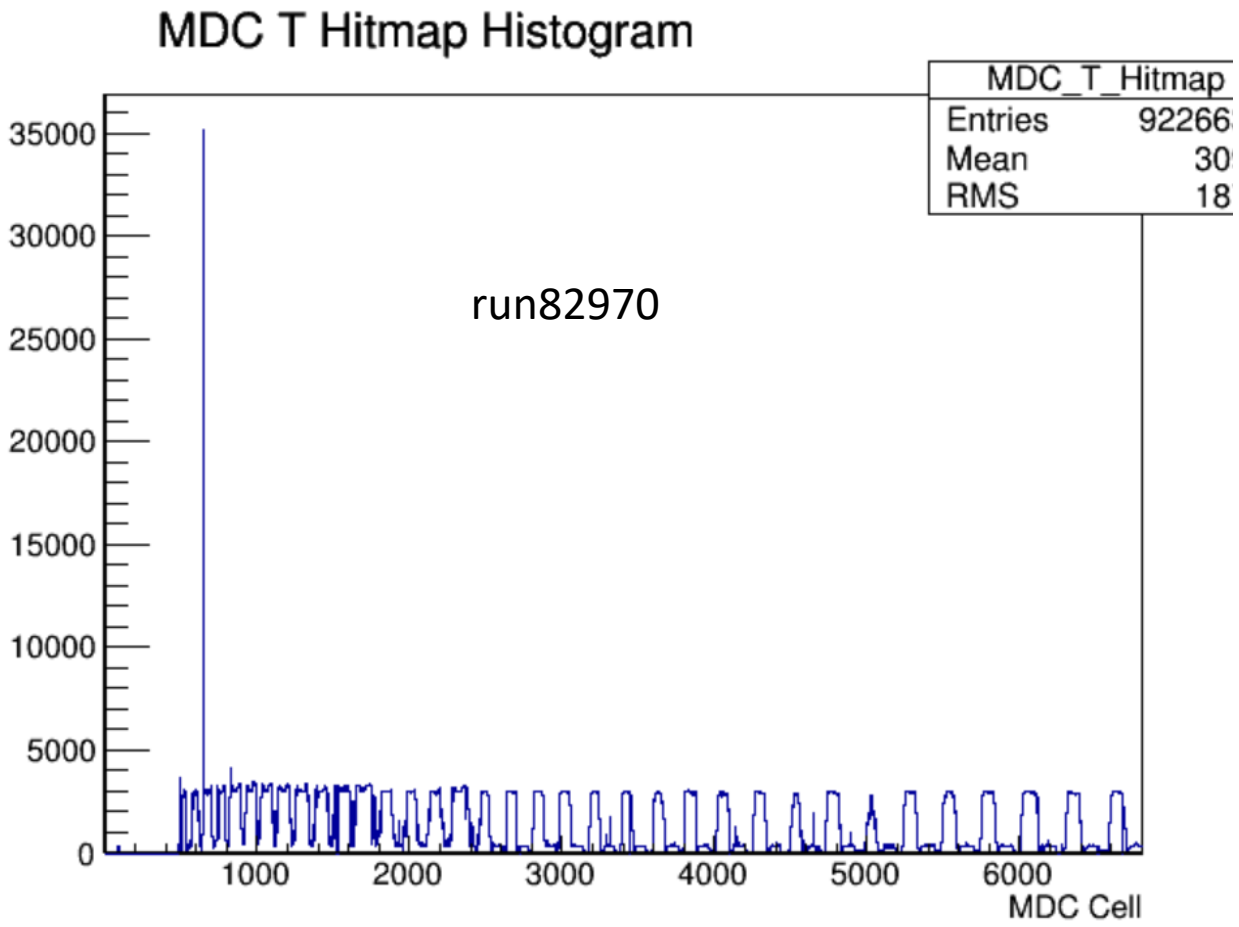


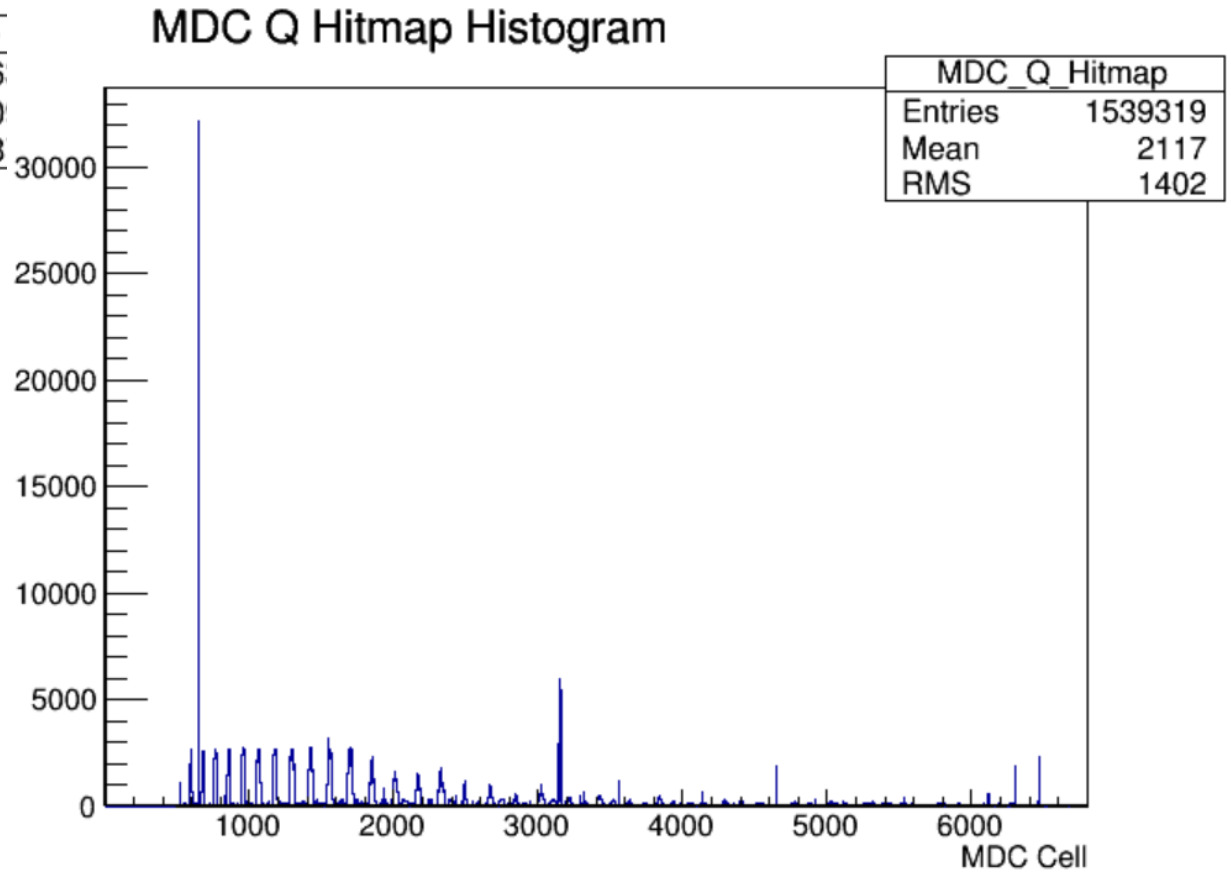


Cosmic-ray test



- Most dead channels ware recovered. One noise board (W11-2) was found





Installation of the long rail for CGEM installation

- September 29
  - Welded the long rail, and installed the long rail on the legs
  - Test MDC with cosmic-rays (changed preamplifier of W11-2)
  - Final check the step part of MDC in the evening

Plan for next week

- CGEM insertion and installation

Backup

Schedule (may be updated each week)

No.	tasks	Duration（day）	Start time and stop time	Sub-system involved
1	Removal of equipment of machine		July 1- Aug. 6	Utility, Small angle lum. Detector and ZDD, Beam pipe, slow control
2	Pull-out of EEMC			Utility, EMC, TOF, MDC, MUC
3	Removal of inner chamber（Operate simultaneously on both sides）	51	Aug. 7- Sep.7 Sep.8- Sep. 28	MDC, MDC electronics, Gas, Mechanics, Laser Alignment group, Trigger, DAQ, Slow control
4	Installation of CGEM	44	Sep.29- Nov. 11	CGEM group, MDC, MDC electronics, Gas, Mechanics, Laser Alignment group, Trigger, DAQ, Slow control
5	Recover EEMC		Nov. 12-Dec.30	Utility, EMC, TOF, MDC, MUC
6	Recover equipment of machine			Utility, Small angle lum. Detector, ZDD, Beam pipe, slow control,
total		180 days	July 1- Dec.30	

Key tasks before extraction of iMDC and installation of CGEM

- CGEM Mock-up insertion test （Done, successful）
- Laser alignment preparation (Done)
- Extraction of the inner MDC is considered to be the most critical point. Continue inner chamber extraction test (Done, passed the review)

- Continue CGEM cosmic-ray test to gain more experience with the full detector
- CGEM integrated and tested with BESIII DAQ, trigger, and slow control