

Japan LCTPC Face to Face Meeting Minutes

Yumi Aoki

Thursday, April 21th, 22th 2018. JST

Attendance: Aiko Shoji, Akira Sugiyama, Keisuke Fujii, Shinya Narita, Takahiro Fusayasu, Takeshi Matsuda, Tomohisa Ogawa, Yukihiro Kato, Yumi Aoki, Takashi Watanabe Takahiro Mizuno Keita Yumino, Junping Tian, Oliver

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<https://kds.kek.jp/indico/event/27592/>

2 Agenda

2.1 Beam test analysis

- Yumi 【Spatial resolution】

I talked about spatial resolution of last beam test. The spatial resolution (100 μ m) can be achieved.

The remaining issues are following:

- *Understand Cd difference
- *GM resolution at different angular
- *Write paper about resolution at beam test

- Aiko 【dE/dx, Electron transmission】

Aiko talked about dE/dx resolution status. She said that dE/dx resolution including landau fit was succeeded. The remaining issues are to consider theta angled data and to measure GEM gain uniformity.

- Yukihiro 【Ceramic GEM】

Yukihiro reported about specs and advantages of LTCC(Low temperature Co-fired Ceramics).

The measurement items are Gain, Energy resolution, Long term stability, and Gain uniformity.

*Max. gain: 1800(100 μ m) and 3000 (200 μ m)

*Energy resolution: 20% 40% (FWHM)

*Discharge rate: 1.2X10-3Hz (gain is 450),

*Gain variation in long term: less than 10%,

*Gain uniformity: 10% (6cm X 6cm area)

(From his summary slide)

The advantage is good discharge resistance , sufficient rigidity, low cost. Discharge rate is a problem.

Q. Ceramic GEM need Training or comissionaing ?

C. 100*100cm is easy to broke.

- Akira 【Yamashita kun's result】
He talked about re-analysis of electron transmission. In ordinary way, we use data which is taken different time. He try to remove the efficiency of experimental parameters.
C. Someone should summerize this work to write a paper.
- Takahiro Fusayasu 【CO2 cooling】
The problem was the bad connection bitween pipe to hole.
This study depend on budget.
- Keisuke 【Budget plan】
- omission-

2.2 Plan(want to do)

- Yumi
*Z resolution
*GEM thickness measurement
- Aiko
*dE/dx resolution *Measurement of amp GEM ' s gain uniformity as a confirmation after the beam test *2-hit separation simulation

2.3 Remaining Beam test analysis

*Z resolution
(*2-hit separation)
etc...

2.4 TODO

【We have to check Neff by simuration】 In simuration, we worry about Neff. If we simurate 4T as same condition as 1T, Neff is reduced. -There are discharge in 2016 beam test?-Comparing 2012 data, there are many discharge in 2012 beam test. -If we comform that there is no discharge in 2016 data, we can postpone this problem.

-How to measure collection efficiency? Can we get it from Gas gain fluctiation?

【Merits & demerits of GEM candidate】

【CO2 cooling (Fusayasusan)】

【sALTRO】 We have to finish this study within 3 years. So we must decide that we should develop sALTRO16 or not. Which connecter should we use? We have to consider power pulsing.