PREMISE

ILC schedule

MEXT decision by end of 2017(earliest)green light

Pre-LAB

negotiation of Int. cost share

budget 2019 -

construction start 2021 -

Tech. choice may happen within 2 - 3 years in LCTPC?

Micromegas is almost ready now?

2018-9? we set the target date for R&D

common module scheme does work? in this schedule?

How do we weight SAltro16 study?

R&D of What we can do within 2 years

demonstration and design/proof

Resource of LCTPC japan

Budget

Manpower

Budget

Plan A/B/C

Plan A: ~~IPNS+Tokusui+KibanA : PD 4 : 16M+10M~~
Plan B: ~~IPNS+Tokusui :PD 1.5 : 5M+10M~~
Plan C: IPNS budget only :PD 0 : 5M

Students KEK 1->2, Saga 3, Iwate 2,

Plan C: Beam test(G+shaper prod., data taking)
beamtest budget (1(O), +2,) short!!
sim. study (boundary electron distortion + ion ,
GATE trans. + dist.)
basic study(glass GEM, gain fluct. ….)

Only limited member can go to DESY!!

z resolution study

Plan B: C + more people can join beam test
CO2
Gate
upper structure ? what we will do

PLan A: C+
sAltro module (2M)+ padplane? supprot LUND?
CO2(4M) + cooling real module size mockup
upper structure(3.5M) +
2module (3M)+
laser(5M)

Gate test on module

purpose of beam test

demonstration

1 performance w/ gate

2 distortion (do we need field shaper ?)

laser at Cryo hall
is difficult !?

1 module test

beam test at DESY

module ready? what is missing

current gate structure ? one module available

gate on field shaper ?

field shaper (need modification …register fit with current Padplane????

gate new design(on frame)

Schedule & budget

budget : limited

-> new design gate + field shaper ??? possible ??

Schedule : Sept. or Oct. 1 month : constraint from D thesis

contact to WP/DESY(Ralf)

D/M thesis : Ogawa D thesis

M thesis : Iwate, Saga

Validation of Asian module concept

any advantage exit ?　w/o side frame

But we may have no money/time to verify
except simulation study
we will study with Field calculation + garfield

Two module box ： no progress

Or give up this concept ??

Module Plan

GEM mounting mechanism

New method work ?

we've tested Fit-in method

we could not conclude concept does work

many unthought issues

Money short suspend further study

renewal of current method ?

minimize HV contact、multiple electrodes

die-hard / stable GEM

GEM around the world(Japan)

Insulator
glass GEM PEG3 by HOYA
    stiff, no outgas, no chargeup
    thick GEM   one provide 30000 gain
                gain 1000@ 1.4kV
Teflon GEM
    often discharge (100 times freq.) but not die
    geom. is same
Ceramic GEM
    discharge   but single can provide 10^4 gain
    thickness ~100um   hole ~100um
     just started

Registive GEM
    Carbon thin electrode(spattering)
    lower gain than usual GEM

Cooling

sAltro16 + TPG cooling

pipe running on each chip

cooling channel

TPG scheme

mockup study w/ 1mm+2mm TPG

study by water cooling/ CO2 cooling

How do we continue this studies?