CDR figure working group

--- status and plans --

Y. Akiba

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Electron working
group meeting

Status

Preparing for the PISA roduction (10k run)

It turns out we have to do many thing before starting the PISA production. Geometry of the detector in PISA have to be updated.

Summary of the status of the geometry code in PISA

PC	ready
TEC	ready
DC	Two versions of code. Both needs some work.
RICH	PMT array design changed PISA geometry updated
EMC	geometry ready digitization moved to Pisorp
MVD	ready(?)
BBC	ready(?)
TOF	(?)

DC geometry status (J.Mitchell, N.Smirnoff)

There are two version of geometry code (YT96 and IT96).

YT96 produces ~20% more background into RICH than IT96. The difference appears to be caused by the details of wire supports (comparison by C.Maguire).

YT96 code are in /scratch area in the CVS (?)

More realistic wire supports are now in IT96 in the repository (J.Mitchell)

IT96 is to change the volume tree to be the same as YT96. (Recommendation by "tracking software review committee").

Wire positions of DC need to be updated based on the "real geometry".(Nobody knows the exact geometry yet.)

J.Michell estimates that it will take ~2 weeks to update IT96 code.

RICH geometry update (K. Shigaki)

- Change of the PMT location of RICH is approved by PM on 8/14

- The new geometry, based on the final design drawing, is in PISA.

- Baffle study is continued. The baffle simulation software is updated so that it is now turn on/off in PISORP.(We can start '10k run' PISA production before the decision on baffle)

- window supports has been implemetned

- Mirror support structure to be implemented soon

EMCAL software (G. David)

Geometry in PISA has been ready
(as of Santa Fe meeting)

The digitization was entirely done in PISA, which is not comfort with the standard. (PISA should do only GEANT hits. The digitization should be done in PISORP)

PISA code is now updated so that the digitization are removed from PISA.
Bit packing technique is used to reduce data volume (C.Maguire/G.David)
The new code will be put in CVS soon.

The corresponding change in PISORP (unpacking the data and digitization) is not completed.

Status of PISORP for eID analysis

- **Tracking software is to be updated**
  - Luxor is endorsed as "framework"
  - The Data Structures in Luxor can be expanded to work with Yale software. (task force for this jos will be formed.)
  - Yale code need to be ported.
  - J. Mitchell is working to improve the track reconstruction efficiency of the BNL code.
  - New data structure of Luxor are to be developed to connect track and RICH and EMCAL
  - S.Johnson(SUNY-SB student) will work on DC response simulation based on the testbeam data.

- **Code to combine all detector sub-systems need to be developed**

- **It is desirable to separate PISORP in two parts**
  - (a) digitization from GEANT HIT to "raw data"
  - (b) "offline analysis" program of "raw data"

Event Generator

HIJING is used as Event Generator

R. Vogt provided distribution of charm quark from NLO pQCD calculation.

HIJING (Au+Au central)
   dN/dy(cc) ~ 0.7
   Ncc ~ 2.5

R.Vogt (if scaled by α = 1.0)
   dN/dy(cc) ~ 1.8
   Ncc ~ 10

Question:

- Which charm yield is used?
- If we want to adjust charm yield in HIJING, how?

Plans

Hopefully, all geometry code in PISA become ready in 2 - 3 weeks

[Question]
Need clean up of code and updating the documentation before starting the production? Some formal "review" of the code is needed?

Once PISA is ready, the production of 10k events can be started.

PISORP program need to be updated. This can be done in paralell with the PISA production.

[Question]
Relation of '10k project' with PEP
continue work on the PISORP framework
or
start converting PISORP program?