

Subject: TIC meeting 3/11, 2024 (detector integration, an update; layout of the subsystem information in the TDR) - main outcome

From: Silvia Dalla Torre <Silvia.DallaTorre@ts.infn.it>

Date: 3/12/2024, 6:11 PM

To: elke-caroline aschenauer <elke@bnl.gov>, Simon Gardner <simon.gardner@glasgow.ac.uk>, Nathaly Santiesteban <nathaly.santiesteban@unh.edu>, thomas ullrich <thomas.ullrich@bnl.gov>, Ernst Sichtermann <EPSichtermann@lbl.gov>, Oleg Tsai <tsai@physics.ucla.edu>, "Landgraf, Jeffery M." <jml@bnl.gov>, Barbosa Fernando <barbosa@jlab.org>, "jhuang@bnl.gov" <jhuang@bnl.gov>, "eic-projdet-tic-l@lists.bnl.gov" <eic-projdet-tic-l@lists.bnl.gov>

CC: John Lajoie <john.g.lajoie@gmail.com>, matt posik <posik@temple.edu>, "Garg, Prakhar" <prakhar.garg@yale.edu>, "Hartbrich, Oskar" <hartbricho@ornl.gov>

Dear Colleagues,

this e-mail is to underline the main outcomes of the March 11 TIC meeting, dedicated (i) an update about detector integration progress and (ii) a proposal for the layout of the detector information in the TDR. The careful reports by the speakers have been appreciated.

(i) An update about detector integration progress.

The project engineers have provided an update about Integration, Installation and Infrastructure. Some minor adjustments have been applied to AC-LGAD, Inner MPGDs and MPGD disks for cable and service routing.

The current option for the barrel HCal Fe radiators also used for flux return is by re-using bars from STAR; these are full bars, different from the configuration alternating empty and full sections as considered in the past.

The weight of the barrel ECal is approaching 50 t. Contacts ongoing to understand if some weight reduction is possible.

Two relevant open point are shortly discussed:

- the mechanical interference between DIRC and outer gaseous tracker: two options about extracting the tracker chambers (towards backward / towards forward) are under study;
- two option are under consideration for the dRICH implementation, discussed in a dedicated report.

The DSC report about dRICH integration has considered the major aspects of two possible implementations:

(a) a single vessel, with large central bore to allow the installation sliding along the beam pipe; For maintenance of both dRICH and devices upstream of it, the dRICH can be slide forward creating a ~70 cm gap (sufficient for all operations?);

(b) two twin vessels that can be put in place from lateral approach by crane and removed by crane for maintenance;

in this case, the central bore (resulting when the two half are in place) is smaller.

From the point of view of performance,

- option (a) results in a more uniform acceptance in phi, but reduced acceptance in eta: up to $\eta \sim 3.2$ for gas radiator, up to $\eta \sim 2.8$ for aerogel;

- option (b) provides larger eta acceptance, up to ~ 3.6 for gas and up to ~ 3 for aerogel, while the phi acceptance is largely non-uniform in a wide eta-range.

The comparative evaluation of the two options is still in progress.

(ii) a proposal for the layout of the detector information in the TDR

A proposal coming from the TC-office has been presented and discussed.

A version taking into account the comments is in attachment.

The new version will be discussed at a coming TIC meeting.

If this notes need corrections/integration, please, write me back.

Thank you.

Best greetings, Silvia

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Silvia DALLA TORRE

<http://wwwusers.ts.infn.it/~dallator/SilviaDALLATORRE/>

INFN - Sezione di Trieste

<http://www.ts.infn.it>

Via Valerio, 2

34127 Trieste ITALY

tel. +39.040.558 3360 - +39.040.375 6227

fax +39.040.558 3350 - +39.040.375 6258

e-mail: silvia.dallatorre@ts.infn.it

— Attachments: —

TDR-subsystem_scheme.pdf

120 KB