

**Subject:** TIC meeting ,October28, 2024 (preTDR news; nHCal update; DSCs and project bilateral meeting - pfRICH) - main outcome

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

**Date:** 10/28/2024, 6:49 PM

**To:** elke-caroline aschenauer <elke@bnl.gov>, 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>, Barak Schmookler <baraks@ucr.edu>, "tamponi@to.infn.it" <tamponi@to.infn.it>, Markus Diefenthaler <mdiefent@jlab.org>

**CC:** "Lajoie, John" <lajoiejg@ornl.gov>, matt posik <posik@temple.edu>, "Hartbrich, Oskar" <hartbricho@ornl.gov>, "Garg, Prakhar" <prakhar.garg@yale.edu>

Dear Colleagues,

this e-mail is to underline the main outcomes of the October 28th TIC meeting, dedicated to (i) preTDR draft, news and (ii) nHCal update and (iii) DSCs and project bilateral meetings - pfRICH .

#### **(i) preTDR draft, news**

In chapter 8 "Experimental Systems", all texts that are Collaboration responsibility have been delivered, a part

those requiring external inputs (from chapter 2 and from Project contributions); this is regarded as an important result for the collaboration.

22 (over 24) internal review reports have been delivered plus more than 10 volunteer reports from collaboration members.

Next steps include:

- Integrating the review inputs (with cross-check on November 18);
- text updates directly in the official overleaf project;
- figures uploaded according to the "Guidelines for Reproducing TDR Plots"

(<https://www.overleaf.com/read/dynqqzsttkcm#28f8f7>);

- concerning workforce, cost, timelines, the details are in P6; in the subsection it is requested to have only gross features about construction time and the role of the various institutions contributing to a DSC, the latter presented as a table.

#### **(ii) nHCal update**

The updates include a number of studies motivating nHCal and studies of detector impact on physics (Vector meson reconstruction in dimuon channel, Vector meson reconstruction in KK channel, Diffractive dijets with nHCal, Particle distributions in nHCal, Jets with neutrals, Veto for dRICH).

The progress of the detector design is also presented; it adopts the technology of the LFHCal. The report has been greatly appreciated and the important progress in the physics motivation studies has been underlined.

#### **(iii) DSCs and project bilateral meetings - pfRICH**

The topics discussed at the bilateral meeting are the mechanical integration;  
the HV options, where the TIC expresses preference for individual electrode powering versus voltage dividers;  
low voltage distribution; FEE ASIC options (open: EICROC vs FCFD);  
cooling system design; gas system design;  
light monitoring conceptual design with the need of a small PED to clarify the conceptual details.  
The report, concise and complete, has been appreciated.

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

Best greetings, Silvia

On 10/3/2024 3:25 PM, Silvia Dalla Torre wrote:

Dear Colleagues,

this e-mail is to underline the main outcomes of the September 30th TIC meeting, dedicated to (i) preTDR draft, Version0 and (ii) first news from the September calorimeter test beam.

**Communications on September 30:**

- from TC-office: In the DSC dedicated to gaseous trackers, two colleagues start serving as DSTCs: Annalisa D'angelo and Francesco Bossu'; this new structure of the DSC better reflect the organization of the work inside the DSC itself.

**(i) preTDR draft, Version0**

The preTDR draft, Version0 is a successful exercise; by October 1st, the material from all the subsystems has been uploaded, a part a single one, which is being added by Sunday October 6.  
Following the request of several writers, the publication on ZENODO of Version0 is moved to October 7th early hours (dead-line for material uploading on Sunday October 6th).  
The current version on ZENODO is a placeholder.  
The reviewing process will also start on October 7th.  
Two google forms (one for chapter 2, the other one for chapter 8) are ready and, starting on October 7th, the whole collaboration is invited to read and send feedback.  
Moreover, the internal reviewers will scrutinize with particular care the sections assigned to them.

**(ii) first news from the September calorimeter testbeam**

The rich report corresponding to abundant work performed during the test beam has been appreciated.  
A first LFHCAL module was realized and tested with e, mu and hadron beams at a CERN.  
The FEE ASIC used is HGCROC. During part of the time, the CAEN DT5202+DT5215 Readout was used to provide comparative information. A nice event display was built and operated.

The first look at the still raw information is largely encouraging.  
EEEMCAL has used the same beam parasitically, in preparation for the dedicated testbeam at DESY.

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

Best greetings, Silvia

--

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](mailto:silvia.dallatorre@ts.infn.it)

--

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](mailto:silvia.dallatorre@ts.infn.it)