

Subject: TIC meeting 4/15, 2024 (TDR effort, progress (tracking); tracking simulations for TDR; update on LUT-PID) - main outcome

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Dear Colleagues,

this e-mail is to underline the main outcomes of the April 15 TIC meeting, dedicated to (i) TDR effort, progress (tracking) and tracking simulations for TDR; (ii) update on LUT-PID.

The careful reports by the speakers have been appreciated.

(i) TDR effort, progress (tracking) and tracking simulations for TDR

The report, concise and effective, has reported progress on SVT and MAPD DSC. For the large-size SVT trackers, specification document and technology choice are being finalized for the Ancillary IC.

CyMBaL geometry has been updated following the design of the project engineers and imported it in the detector CAD model. Ongoing tracking software updates:

- Track reconstruction performance also in background embedded DIS events (at present p beam-gas);
- Primary Vertex Reconstruction;
- Tuning the Tracking Covariance Error Matrix;
- Updated material budget of CyMBaL.

The overall progress in the tracking sector is greatly appreciated.

(ii) update on LUT-PID

The status of the LUTs by the 4 PID DSCs is summarized in detail.

The level of maturity of the available LUTs is different for the 4 subsystems and updated versions are being worked out. Tables dedicated to e/h discrimination and tables for the h identification are provided. dRICH is providing, at the moment, separate tables for aerogel and gas. The effort of the DSCs in providing the tables under PID CC WG coordination is appreciated.

In the discussion following the report, it is stated that:

- the present electron finder does not make use of the PID information and the use of it is not foreseen

at short term;

- the hadron LUTs will not be used in the April production;
- the advantages (simpler application) of merging the dRICH aerogel and gas tables is suggested;
- it is underlined the imperative need that the tables are used in the May campaign: it will be the first opportunity to exercise their usage and test the whole machinery.

It also clear, from the discussion, that the delay (originally the usage of LUTs was expected for the March campaign) is also related to the lack of a clear organizational and reporting flow to be better defined in future exercises crosscutting DSCs and SC.

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

Best greetings, Silvia

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