

Conclusions

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IP2I Lyon

Top-Electronics CDR Review

4/6/2021

10:45	→ 11:00	Executive Session Speakers: Marzio Nessi (CERN) , Steve Herbert Kettell (Brookhaven National Laboratory (US))	🕒 15m
11:00	→ 11:30	Top Electronics Overview and requirements	🕒 30m
11:30	→ 11:50	Top Electronics chimneys Speaker: Fabien Cavalier (IJCLab)	🕒 20m
11:50	→ 12:05	Top analog electronics Speaker: Dario Autiero (Centre National de la Recherche Scientifique (FR))	🕒 15m
12:05	→ 12:20	Top digital electronics Speaker: Vyacheslav Galymov (Centre National de la Recherche Scientifique (FR))	🕒 15m
12:20	→ 12:35	CRP adaptor boards Speaker: Bo Yu (Brookhaven National Laboratory (US))	🕒 15m
12:35	→ 12:50	CRP cabling Speaker: Dominique Duchesneau (Centre National de la Recherche Scientifique (FR))	🕒 15m
12:50	→ 13:05	Timing distribution Speaker: Dario Autiero (Centre National de la Recherche Scientifique (FR))	🕒 15m
13:05	→ 13:20	Cold-box tests Speaker: Elisabetta Maria Pennacchio (Centre National de la Recherche Scientifique (FR))	🕒 15m
13:20	→ 13:35	Production and QC Speaker: Vyacheslav Galymov (Centre National de la Recherche Scientifique (FR))	🕒 15m
13:35	→ 13:50	Installation Speaker: Takuya Hasegawa	🕒 15m
13:50	→ 14:00	Summary Speakers: Dario Autiero (Centre National de la Recherche Scientifique (FR)) , Takuya Hasegawa	🕒 10m
14:00	→ 14:30	Executive Session Speakers: Marzio Nessi (CERN) , Steve Herbert Kettell (Brookhaven National Laboratory (US))	🕒 30m

Review's questions

1. Are the requirements documented? Are they reasonable?

High level requirements are unchanged with respect to SP/DP. Some small refinements of specifications e.g. dealing with bipolar dynamics, going from 2.5 to 2 MHz sampling are easily adaptable

2. Is the scope understood? Is there a team in place? Which institutions are interested?

- The scope and the various components are well defined. The team is the one inherited from the DP consortium and which has successfully implemented the system and its production for protoDUNE-DP for 10kchannels. New institutions such as IJCLAB and CENBG added.

3. Is there a reasonable plan for R&D and prototyping?

- The top-drift electronics benefits from a long-standing R&D since 2006 which was already applied to the 3x1x1 and protoDUNE-DP/NP02 and defined the DP TDR. Minor adaptations/changes of the existing hardware have been already implemented in view of the cold-box integration tests. Procurement has been launched to cover the first cold-box test in 2021 (material already tested) and the cold box tests in 2022 which should also test a full top CRP. The material is also available for the module-0 test which is planned. Module 0 will provide full tests but not test the 50 cards chimney since the cryostat does not provide the possibility of implementing it. This should be prototyped in 2022 and tested with another cryogenic system in parallel, as already happened for other tests at IJLAB.

4. Is the design concept reasonable and feasible? Have appropriate mechanical and electrical calculations been performed?

Largely relying on existing design/tested hardware. Minor modifications. 50 cards chimneys design well in progress, also based on an extension of existing well proved concept, no difficulties expected