

Minute meeting about PD system for SPS 2023 test beam.

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Version 1.

The presentations has been uploaded in: <https://agenda.infn.it/event/35129/>

First item: prototype 3D model for SPS20232.

Carlos Díaz explained the 3D model adjusted by CIEMAT colleagues to arrange the PD system. Here a list of assumptions which must be confirmed by IHEP colleagues is presented:

- All the tray will contain the holes for blind PDs.
- The interface holes with TROC2 frame will remain misaligned, as shown in slide 2 of Carlos presentations.
- The interface holes with the tray will remain misaligned, as shown in slide 3.
- All seven trays will include the 4 M3 holes for the TROC2 interface and the front opening for the connector as shown in the PDF drawing added to the HERD document server:

<https://documents.herd.cloud.infn.it/index.php/apps/files?dir=/Hardware/Calo/Mechanics/Prototype/20230309>

CIEMAT colleagues requested to have one real frame + carbon fiber layer as soon the manufacturing finished.

European team will wait for feedback from IHEP engineers.

Second item: discussion about gluing procedure.

Oleksandr Starodubtsev presented the gluing test done in Florence. DC 184 is a silicon which could be used in space, but the gluing procedure is long and complicated. Using general purpose silicone (e.g. DC 734) could be a good solution for SPS 2023.

IHEP colleagues should decide between the two configuration:

- Using a non-space qualified silicon. It is easy to apply but PD must be completely removed from the LYSO cube after beam test since these kind of products could not used in space.
- Using DC 184. It could be used also for the flight model thus, it is not mandatory to remove the PDs from LYSO cubes. The application of the product is more complicated and the glue complete fix requires about 40 hours.

Third item: PD status and PD team at IHEP.

Lorenzo Pacini presented the current status of the main PD system components. Here a brief summary is reported:

- 1050 PDs will arrive in IHEP during the last week of April. These PDs are enough to fill all the LYSO cubes, while the blind PDs will be provided later.
- The first TROC2 (and TROC1) board and all the kapton cables should arrive in IHEP in June.
- The renaming TROC2 boards will be sent to IHEP in July.

The first visit of PD team to IHEP was discussed:

- Depending on the PD delivery time, Oleksandr and Lorenzo could stay in IHEP from April 24th to 28th or from May 1st to 5th.
- IHEP will provide invitation letters for the time period: April 22nd - May 7th.
- During this visit, PD team will define and start the gluing procedure. PD signals will be also tested. A brief description of the instruments needed to test the PD will be provided by Lorenzo in the next few weeks.

A preliminary schedule for the second visit was also discussed:

- The time period strongly depend on the electronics board test results and assembly procedure. A tentative period is middle of June.
- The plan is: start the PD - kapton cable soldering and test PDs with TROC2.