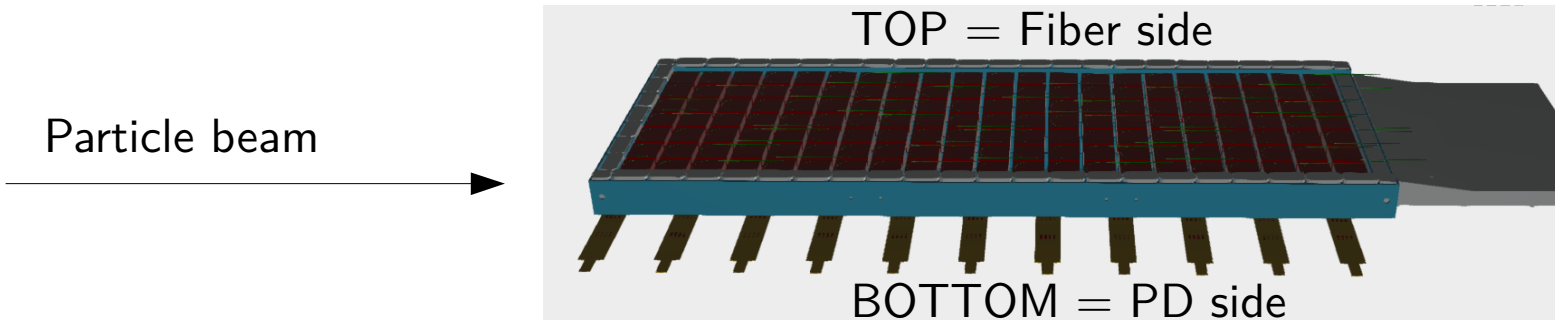
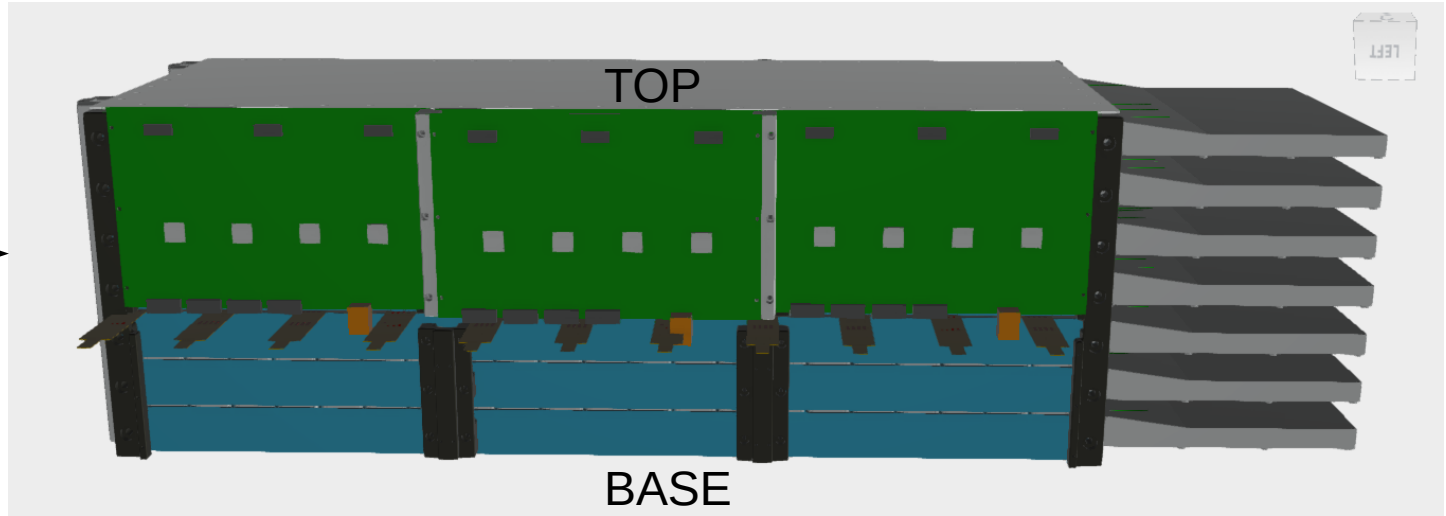


Check of the prototype design for 2021 beam test @ SPS

Eugenio Berti, Raffaello D'Alessandro, Sebastiano Detti, Lorenzo Pacini, Oleksandr Starodubtsev,
for the Firenze INFN HERD group.

Overall view

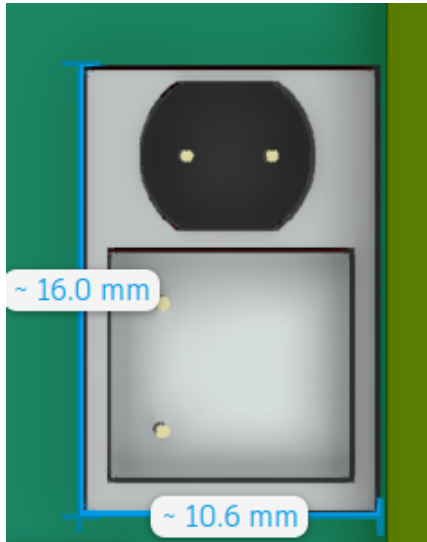
Our understanding of the calorimeter position.



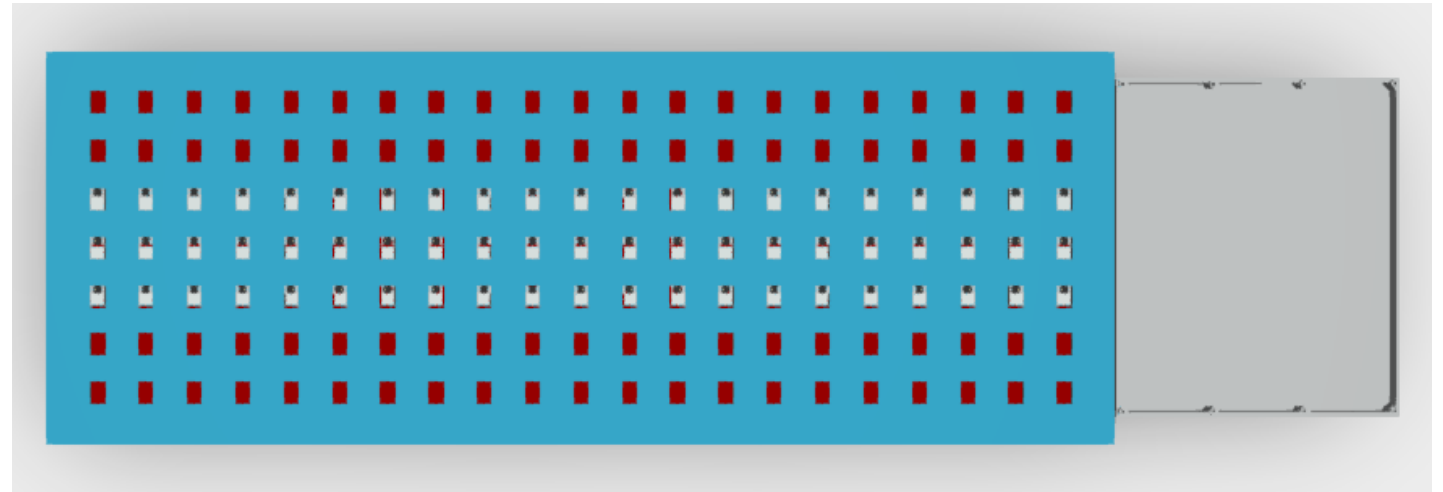
Check layer holes

Holes position and direction: OK

Holes dimension (16*10.6): OK

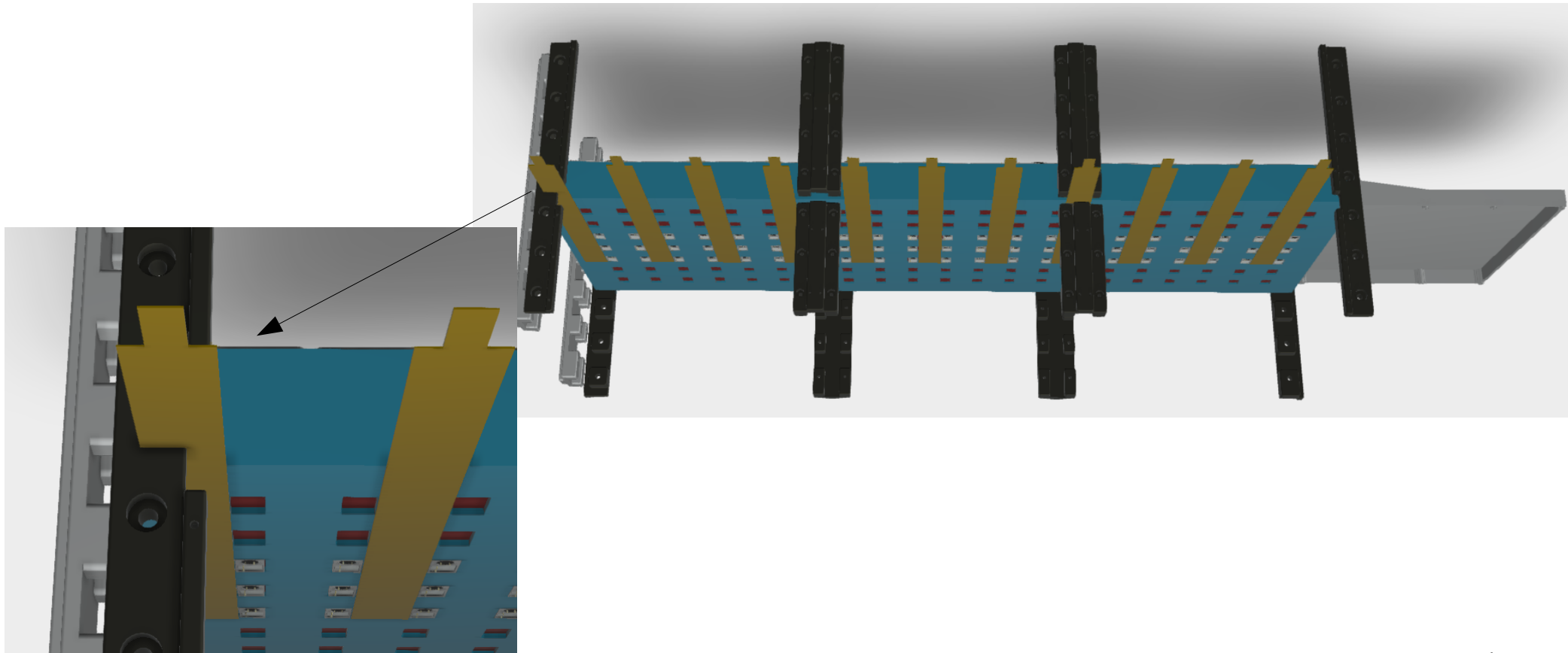


TOP view



Cable position: current design

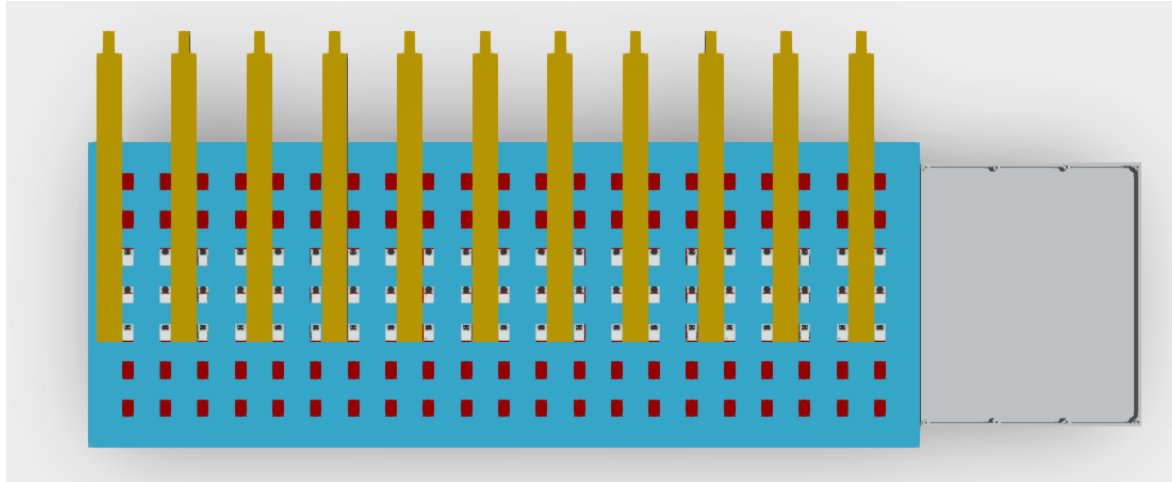
In this design the first cable hits a mechanical structure:



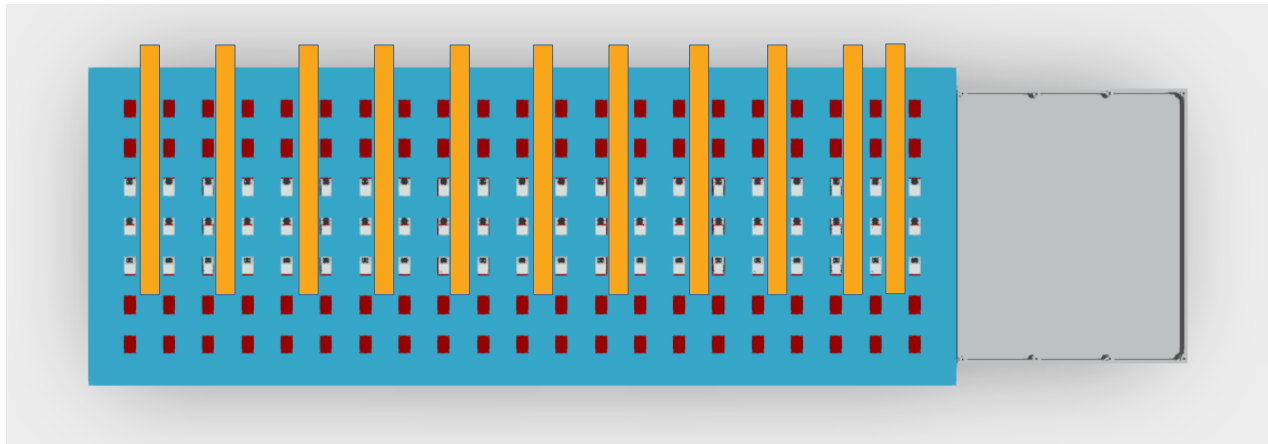
Cable position: proposal

Our proposal: shift the position of the cables on the left, excluding the last one:

Current
version



**This is a
simplified
picture, the
CAD file must
be updated**



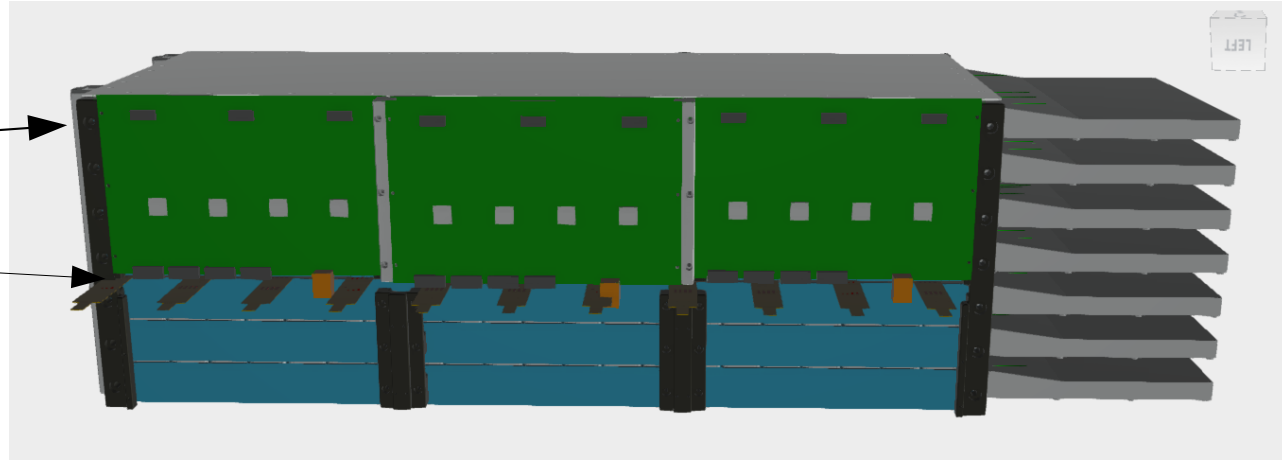
This update has
not impact on
the current
mechanical
structure

Front-end board: adjusted direction

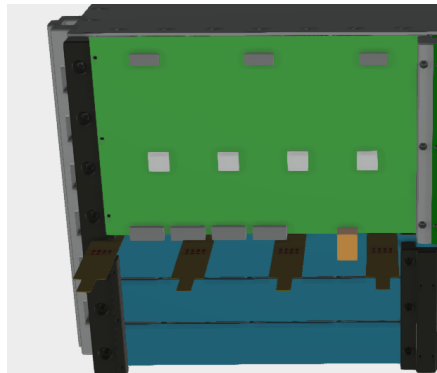
Boards must be rotated by 180 degrees:

Kapton cable connectors

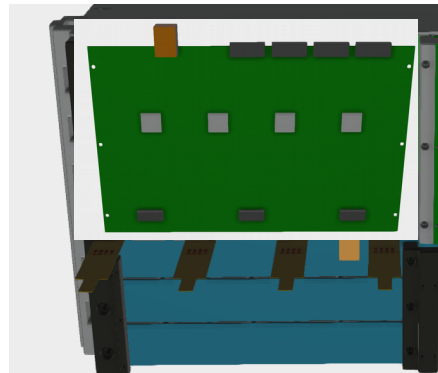
Connectors to TROC2



Now



To be done



This update has not impact on the mechanical structure

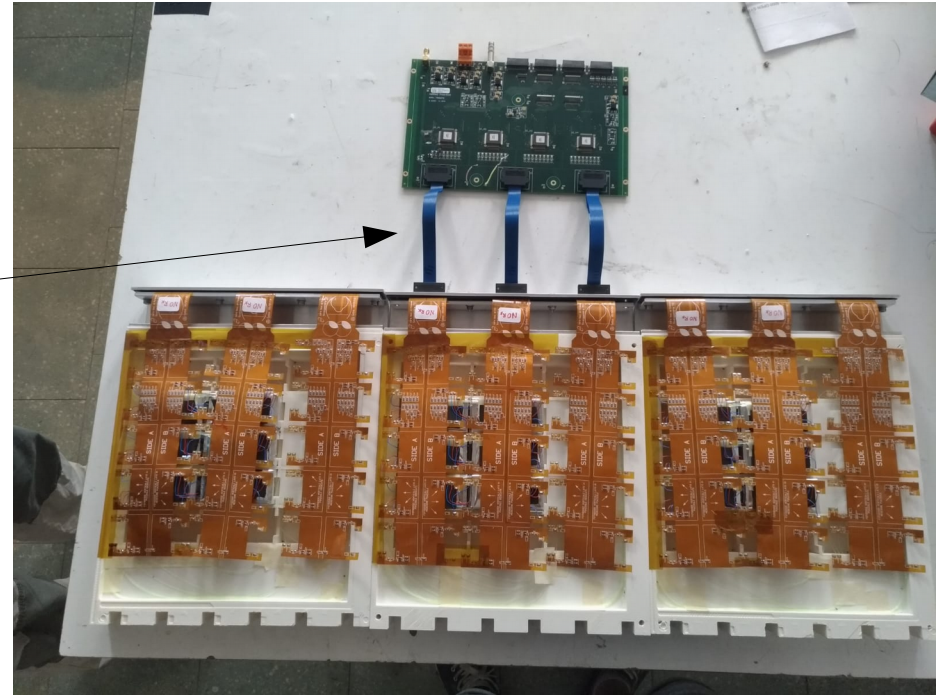
Kapton cables - FFE connections

The kapton cables are not directly connected to the front-end: the FFE connectors are not aligned with the kapton cables since the board are designed for Csl prototype.

Samtec flex cables are used: it allow some distance between the cable connectors and the board connectors.

The length of the flex cable should be checked after the update of the prototype CAD design.

Samtec flex cable with proper length will be provided to IHEP with the Kapton cables.



TROC1 and TROC2: proposal

TROC1 could be placed outside the big box used to black the light.

TROC1-TROC2 link can be done with long cables.

TROC2 (1 or 2 boards, to be determined) could be placed on the TOP of the calo.

TROC2-FFE are done with short cables.



Small hole required in the covering box for TROC1 cable

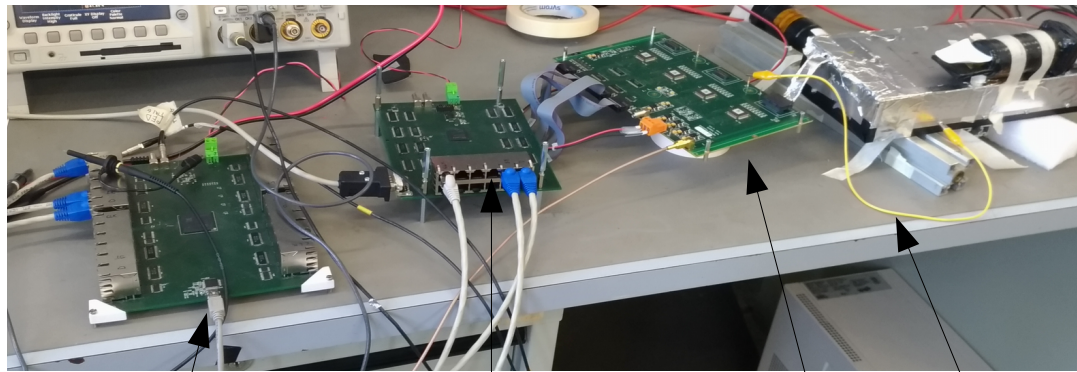
Some simple structure (4 small columns) needed for TROC2 on the top of the Calo

Questions and pictures

Should we define the TROC2 position now?

Should we modify the top plane to add some supporting structures for TROC2 now? Can we do it later?

An example of the system used for a small box



TROC1

TROC2

HIDRA

Common ground between boards and external structures

Lorenzo Pacini

Small prototype in Firenze: top layer

