

Update on Cathode

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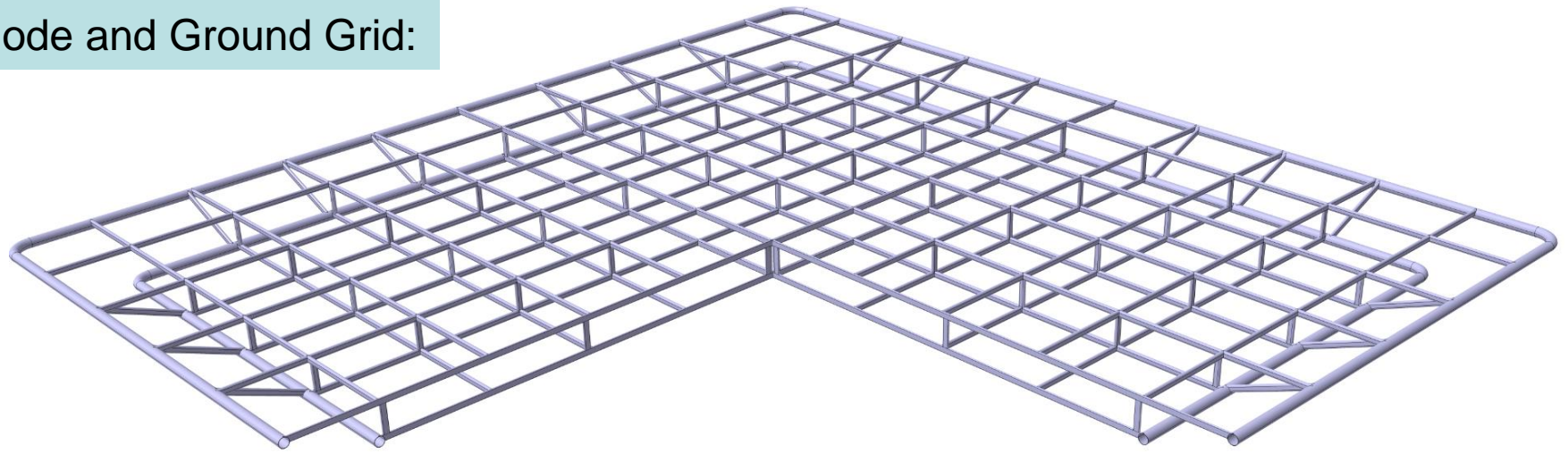
ETH zürich

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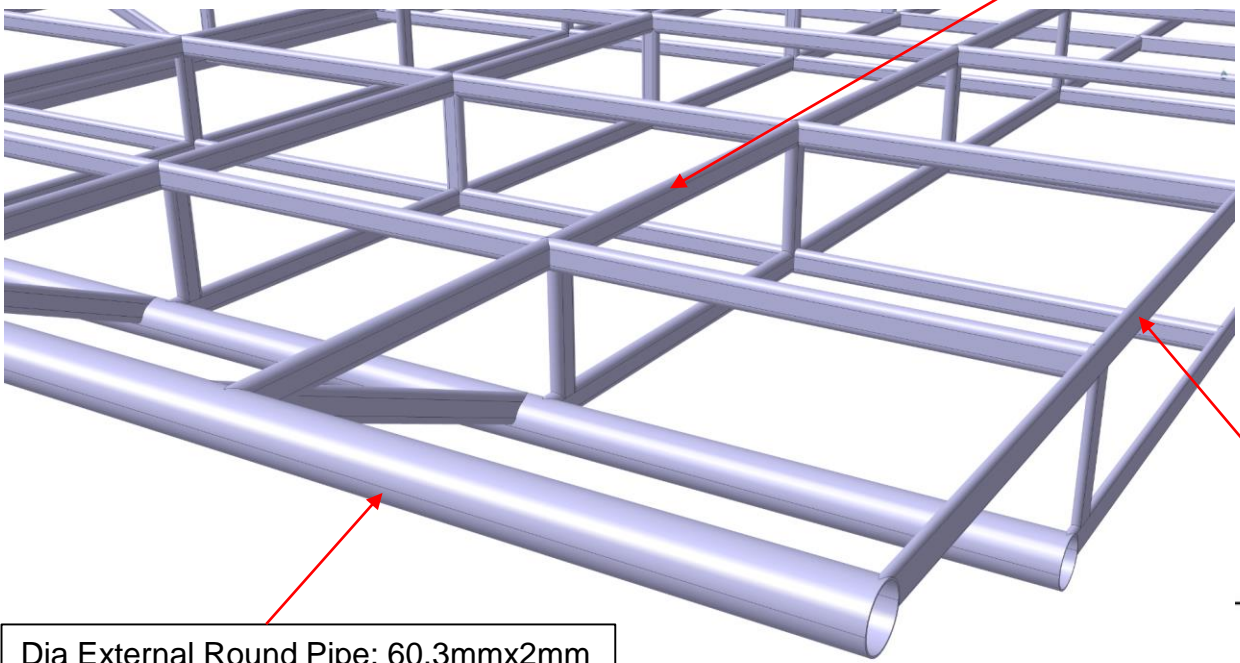
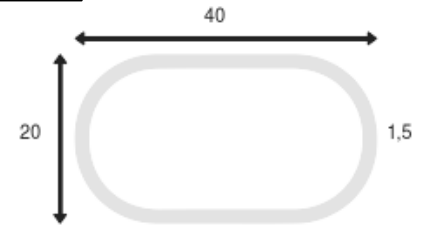
- New Cathode and Ground Grid
 - Geometry is the same
 - External round Pipe from 40mm to 60.3mm Dia
 - Rectangular Pipe from «Oval» profile
 - Clash with main FRP 6inch I-Beam
 - Laura is verifying the electrical simulations for cathode and groundgrid

- Final Design of the Internal Cryogenic Pipes (from D.Montanari)
 - Last model from company received
 - Integrated in the overall model
 - No clash with Groundgrid pillars, PMTs and Field Cage

Cathode and Ground Grid:



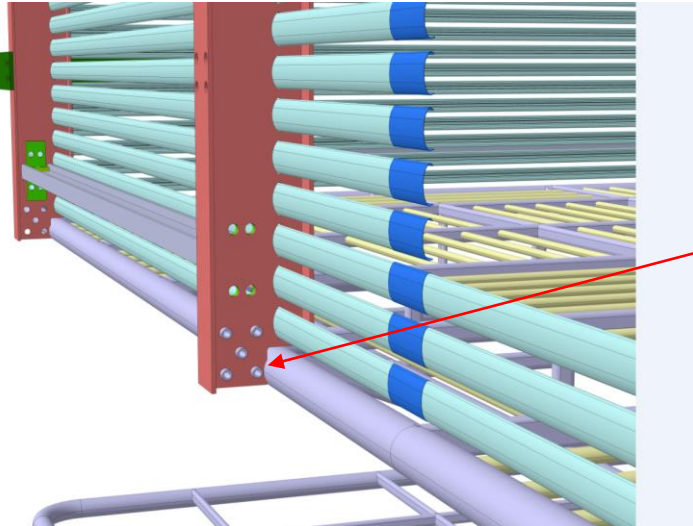
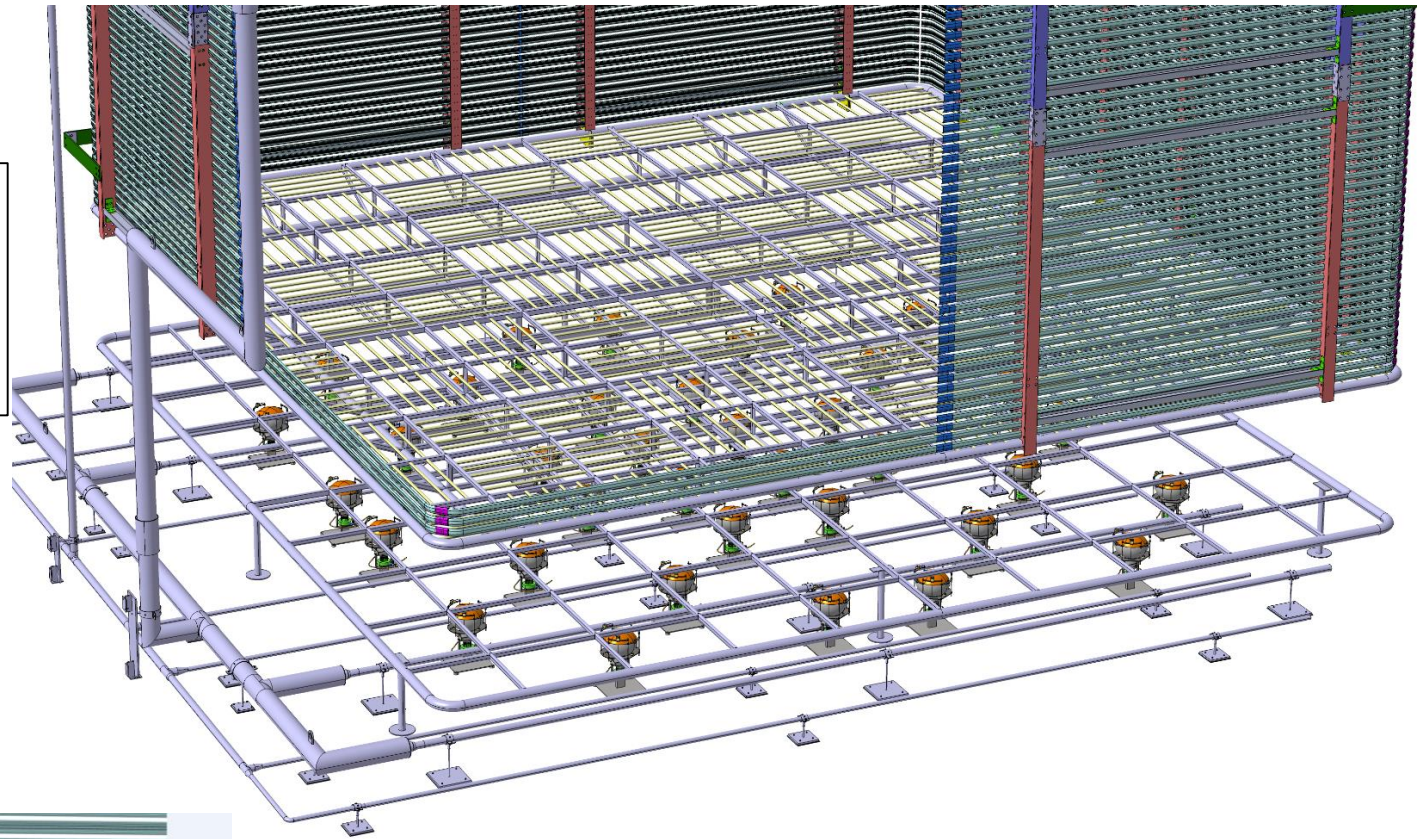
Central «Oval» pipe: 40x20x1.5mm



- Additional Oval Pipe 40x10x1.5:
- Under investigation from the company
 - Small qty
 - Alternative is to use plate 40x10

Dia External Round Pipe: 60.3mmx2mm

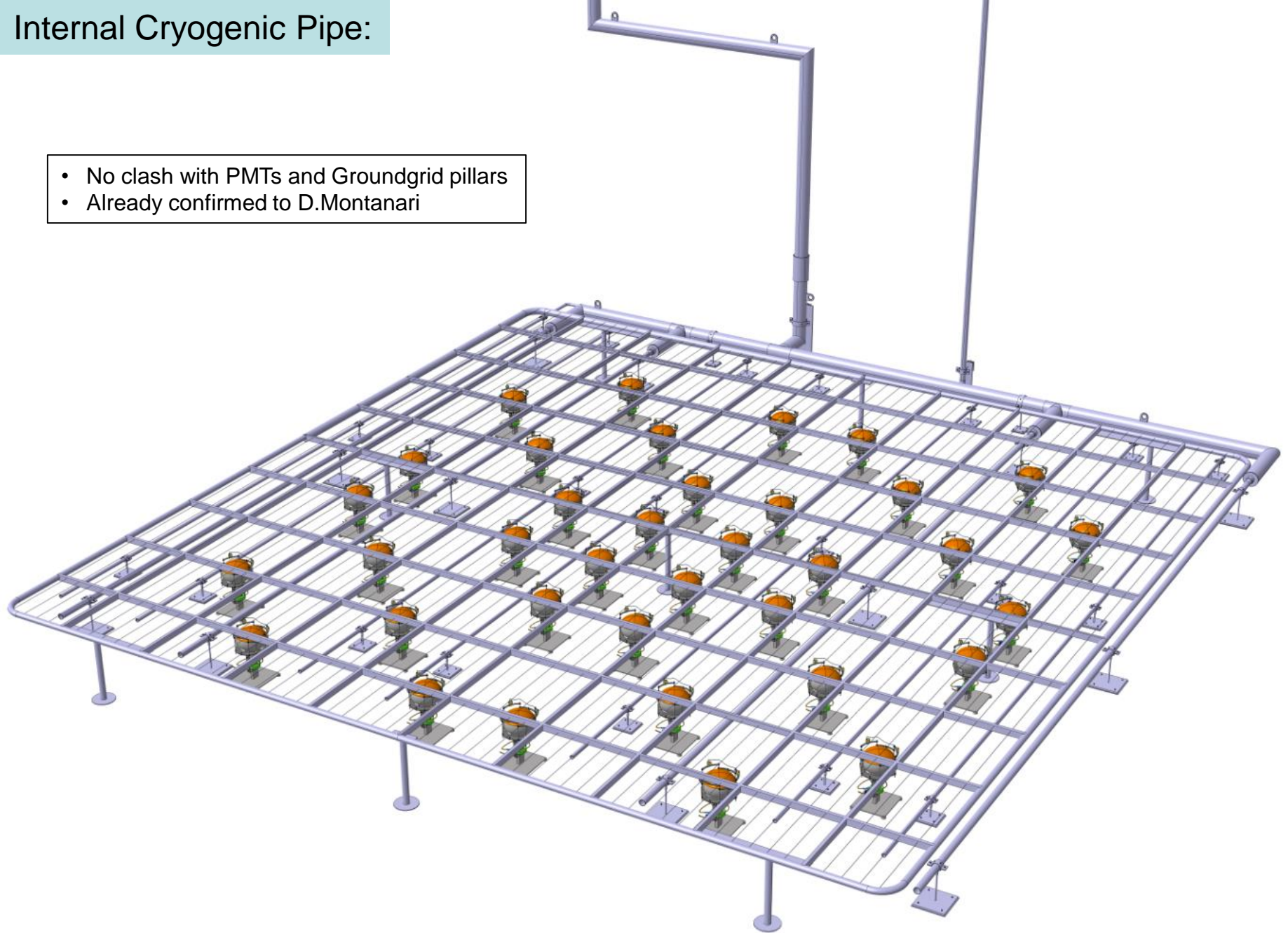
Center «oval» tubes and Grid kept at the same height as for the previous cathode design in order to keep same distance between Cathode and last ALU field shaper

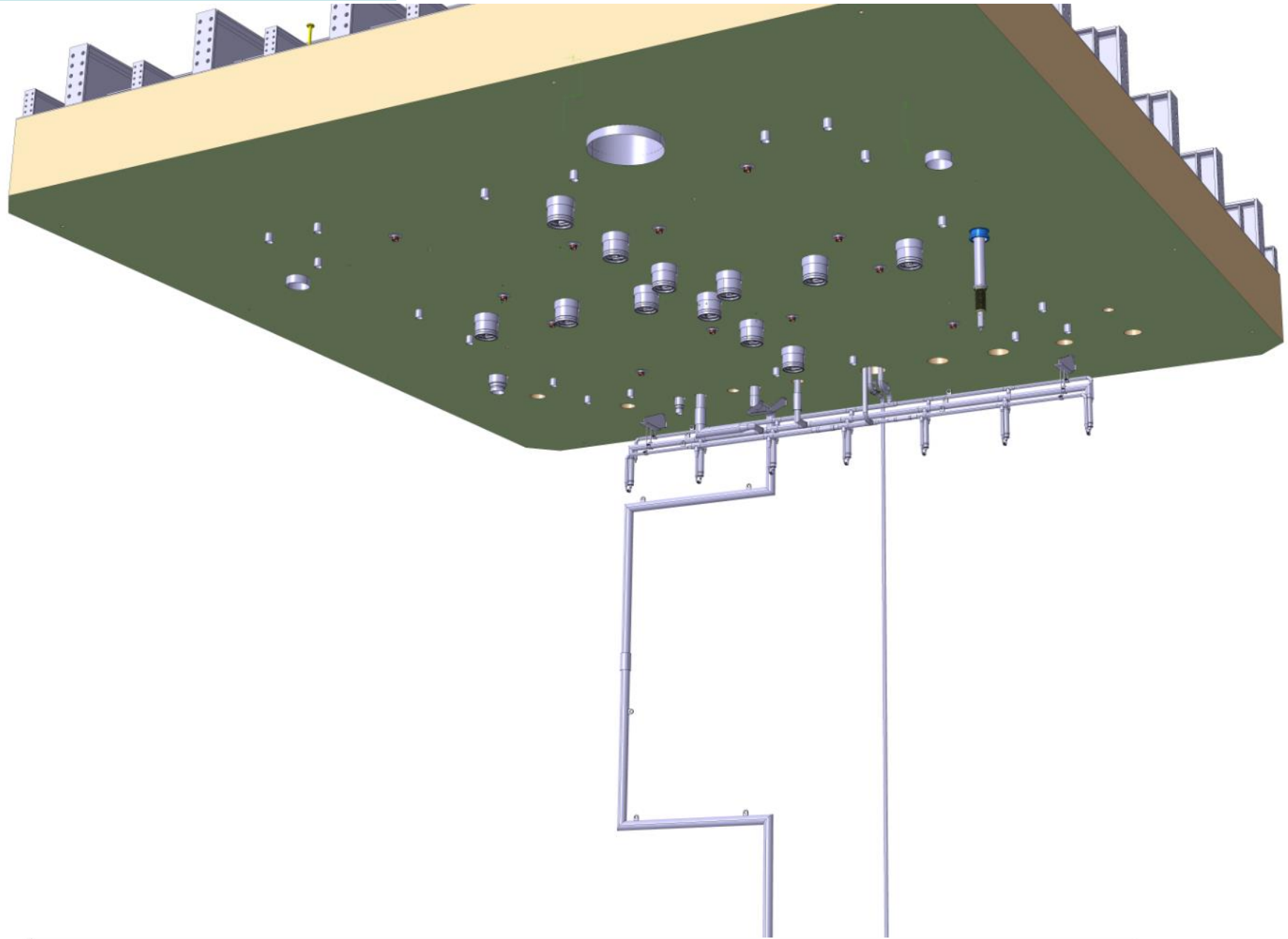


Due to the large new diameter of the round pipe there is a clash with the last 6inch vertical I-beam

Internal Cryogenic Pipe:

- No clash with PMTs and Groundgrid pillars
- Already confirmed to D.Montanari





- CATHODE
 - If the simulations give positive results → go for the final design
 - If Possible I would recommend to keep the Diameter of the external Round Pipe as small as possible
 - Discuss with J. Yu the possibilities we have for modify the last Vertical 6inch FRP I-Beam
 - New weight calculations needs to be done
 - New Stress Analysis needs to be performed
 - Connections for the HVFT degrader and for the PCB voltage divider needs to be redesigned
 - Cathode Holder for the FieldCage-Cathode will be modified

Thank you