



VNIVERSITAT
ID VALÈNCIA



MECHANICS UPDATE

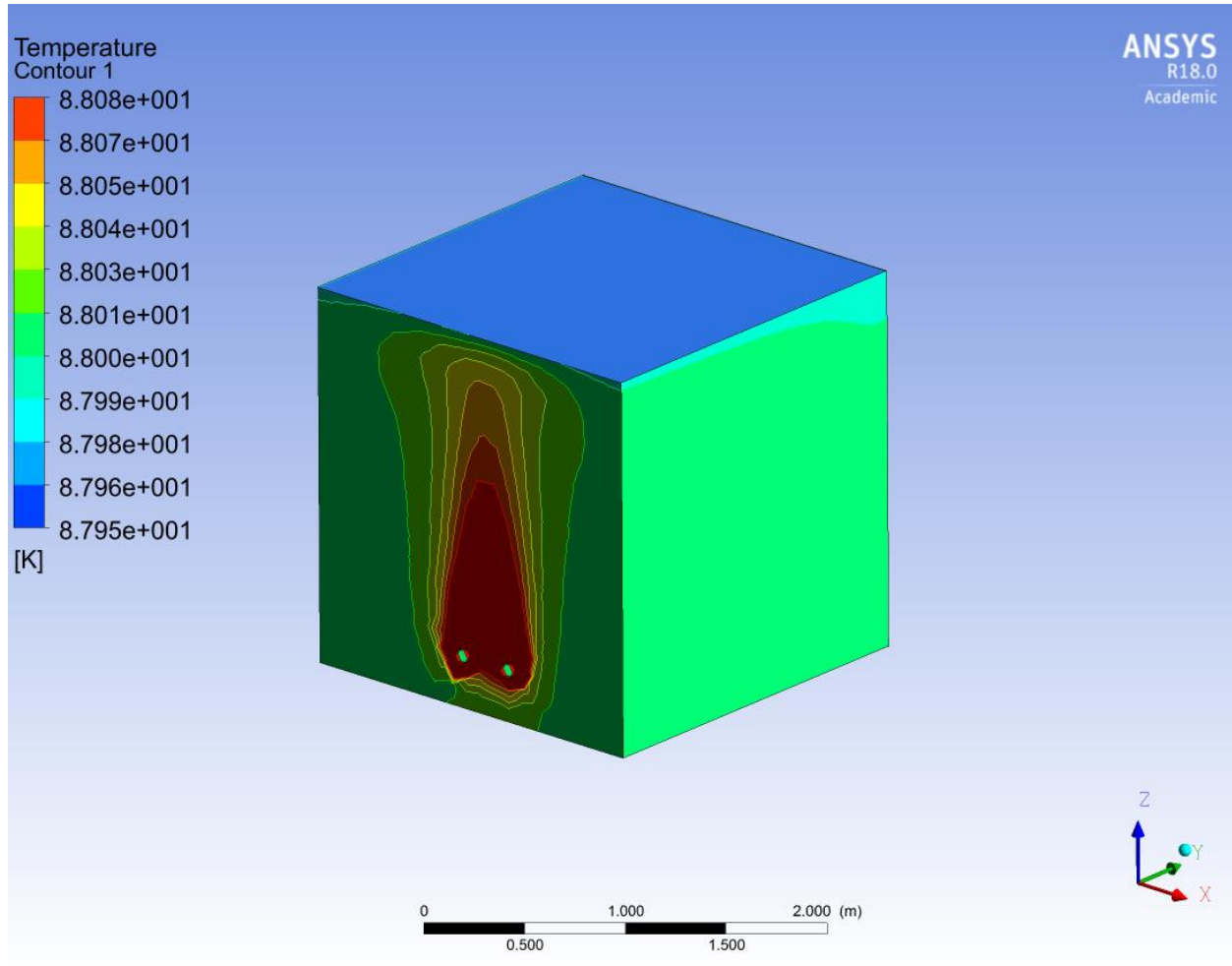


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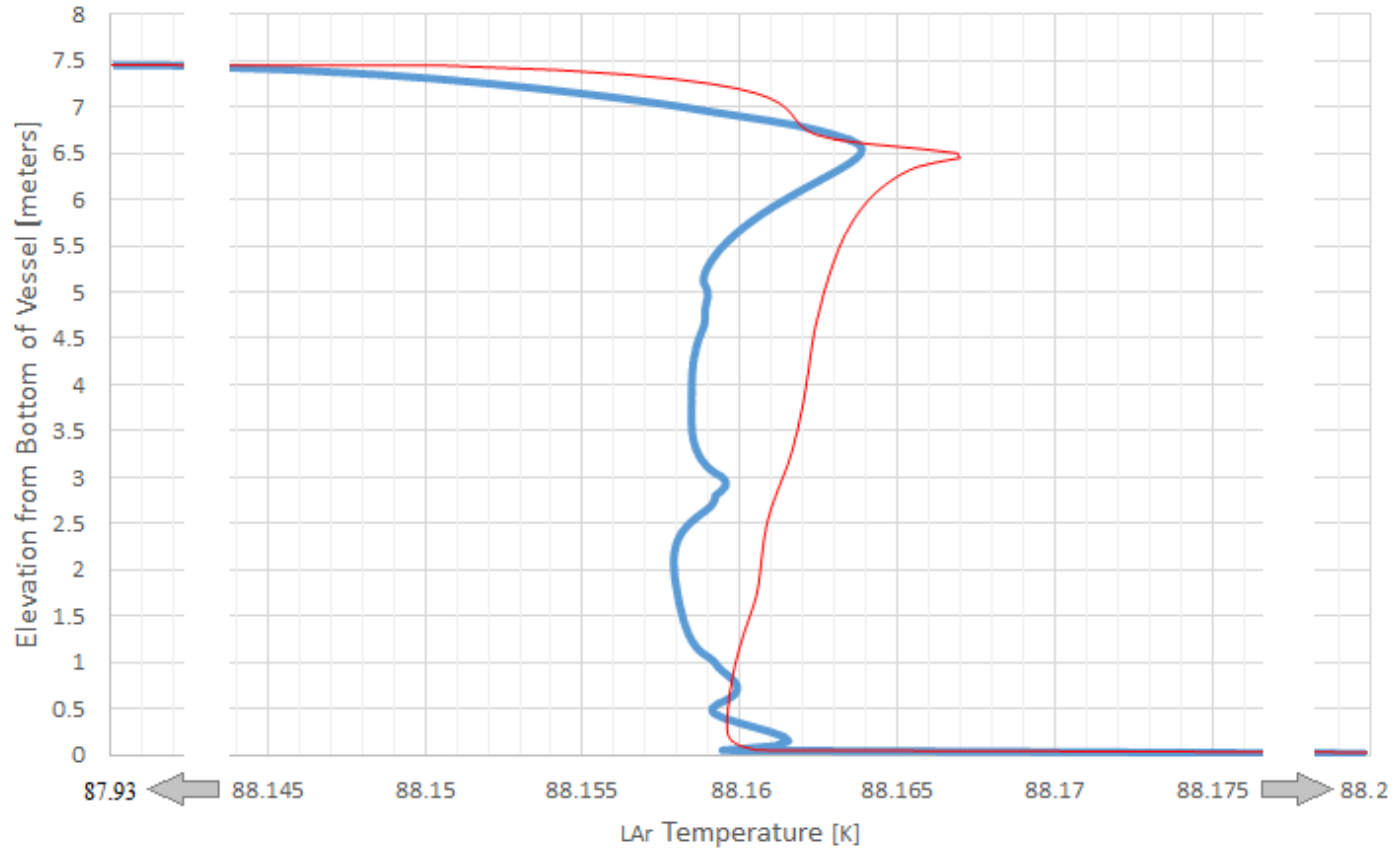
SIMULATION

- Results in Simulation 2m³ tank



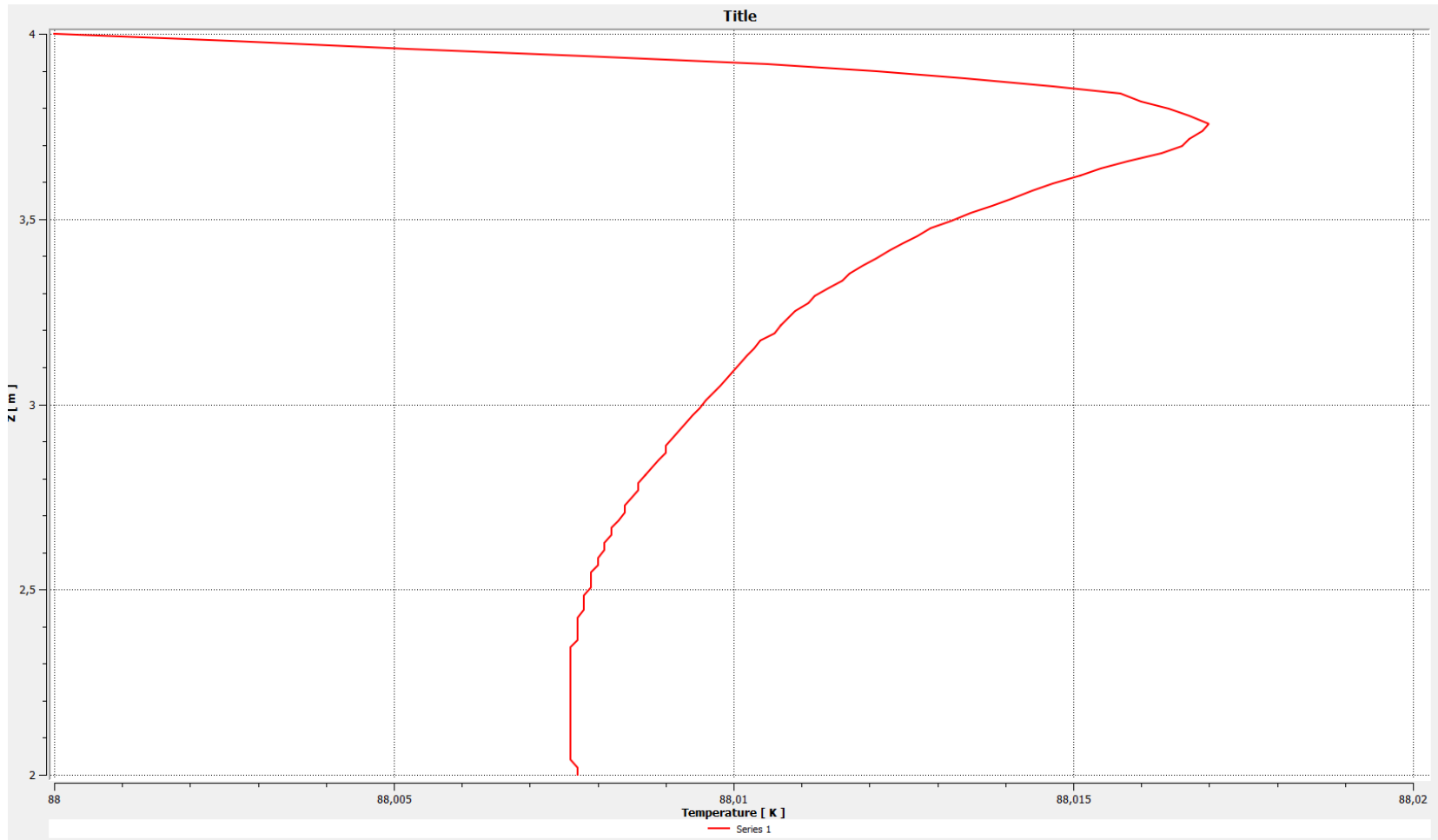
SIMULATION

- Temp profile in Z axis



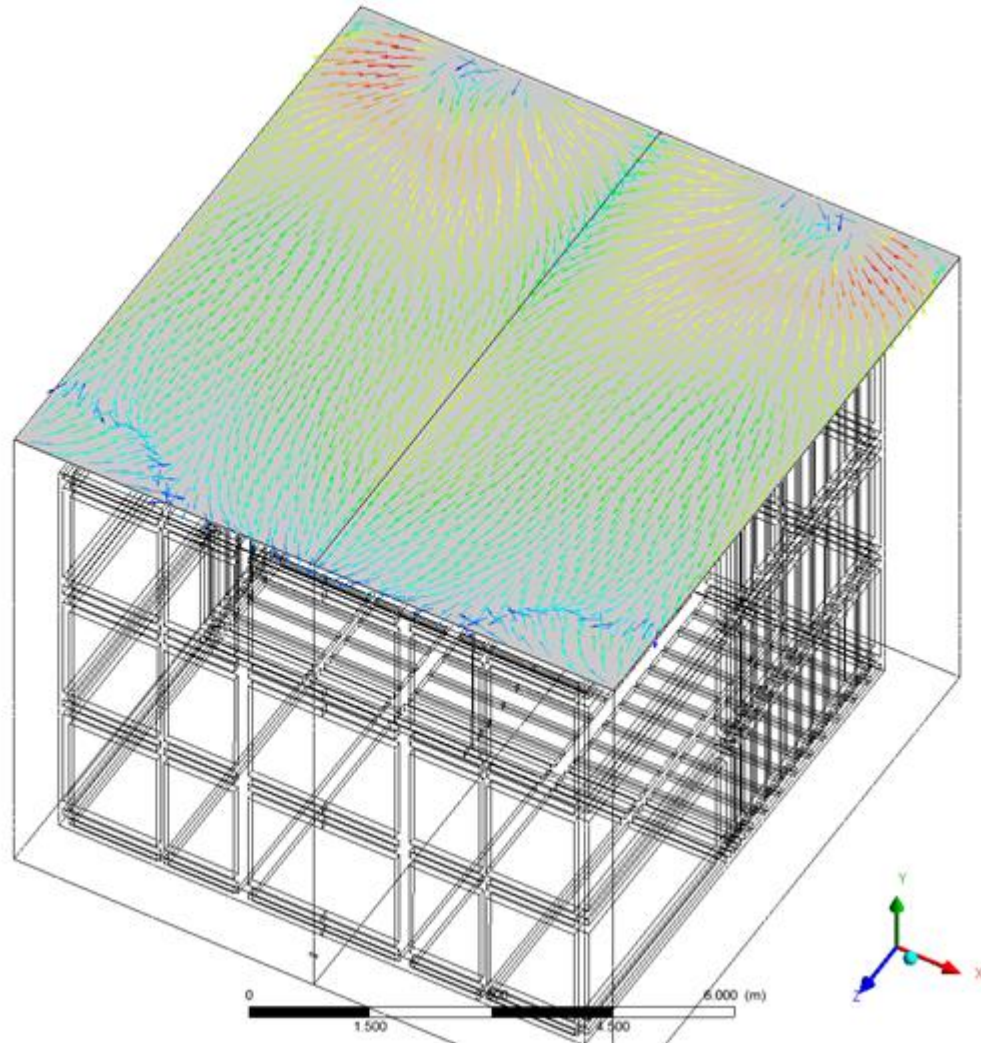
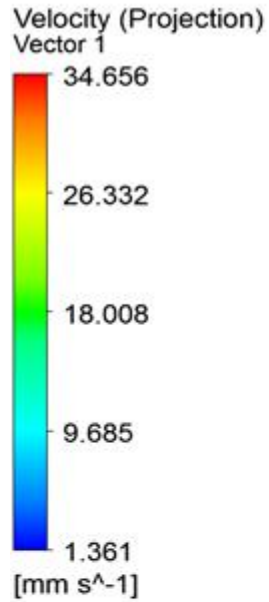
SIMULATION

- Temp profile in Z axis



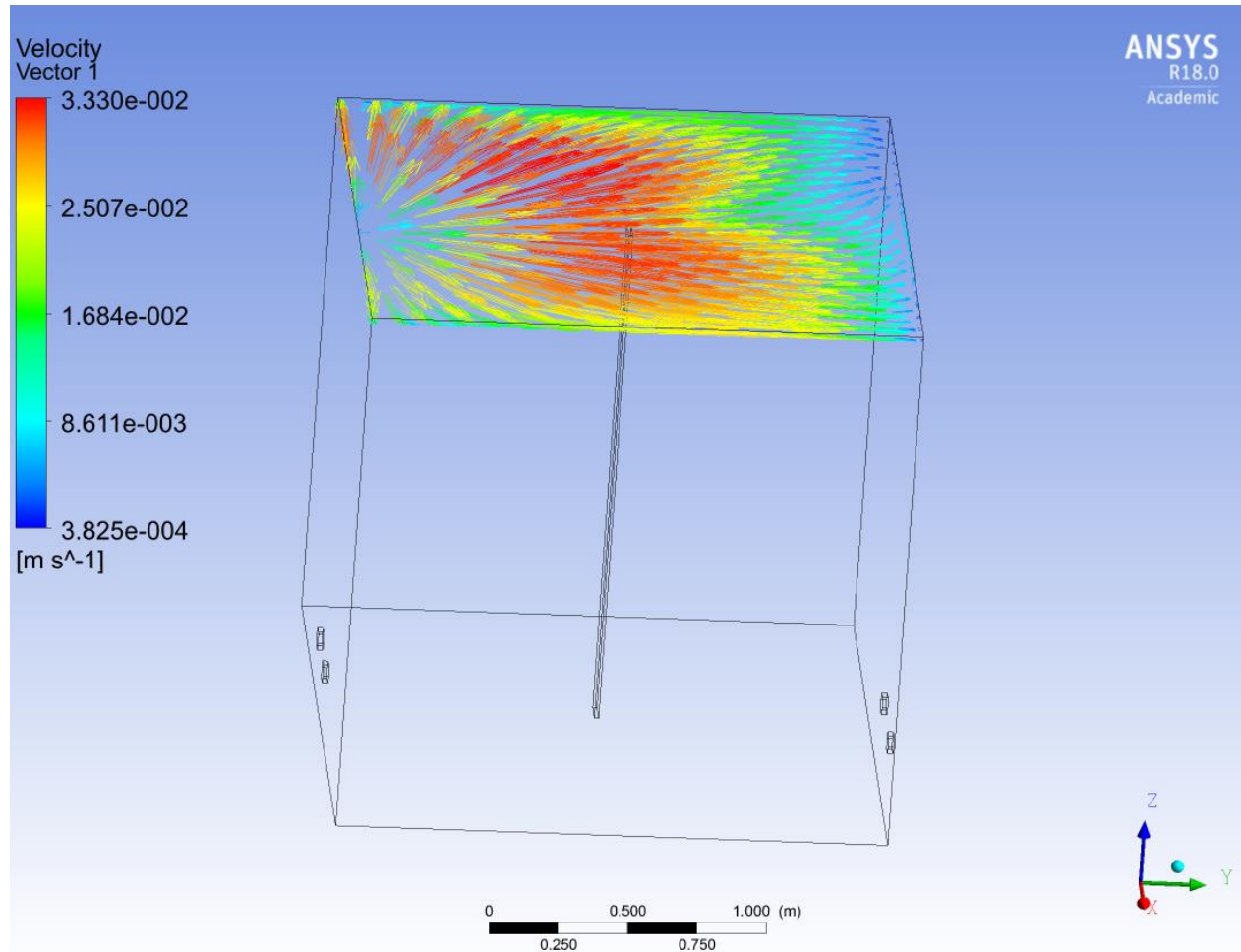
SIMULATION

- Velocity in the top



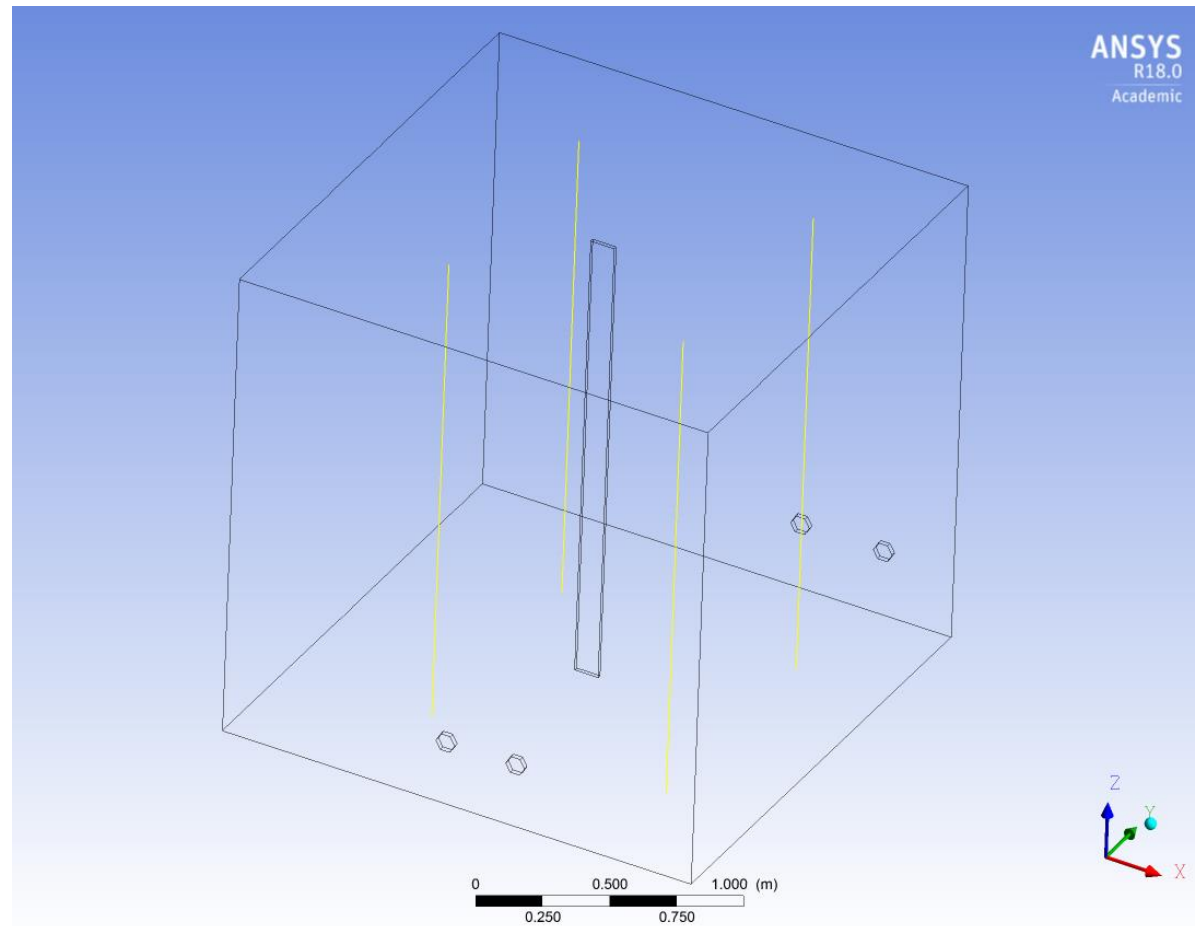
SIMULATION

- Velocity in the top



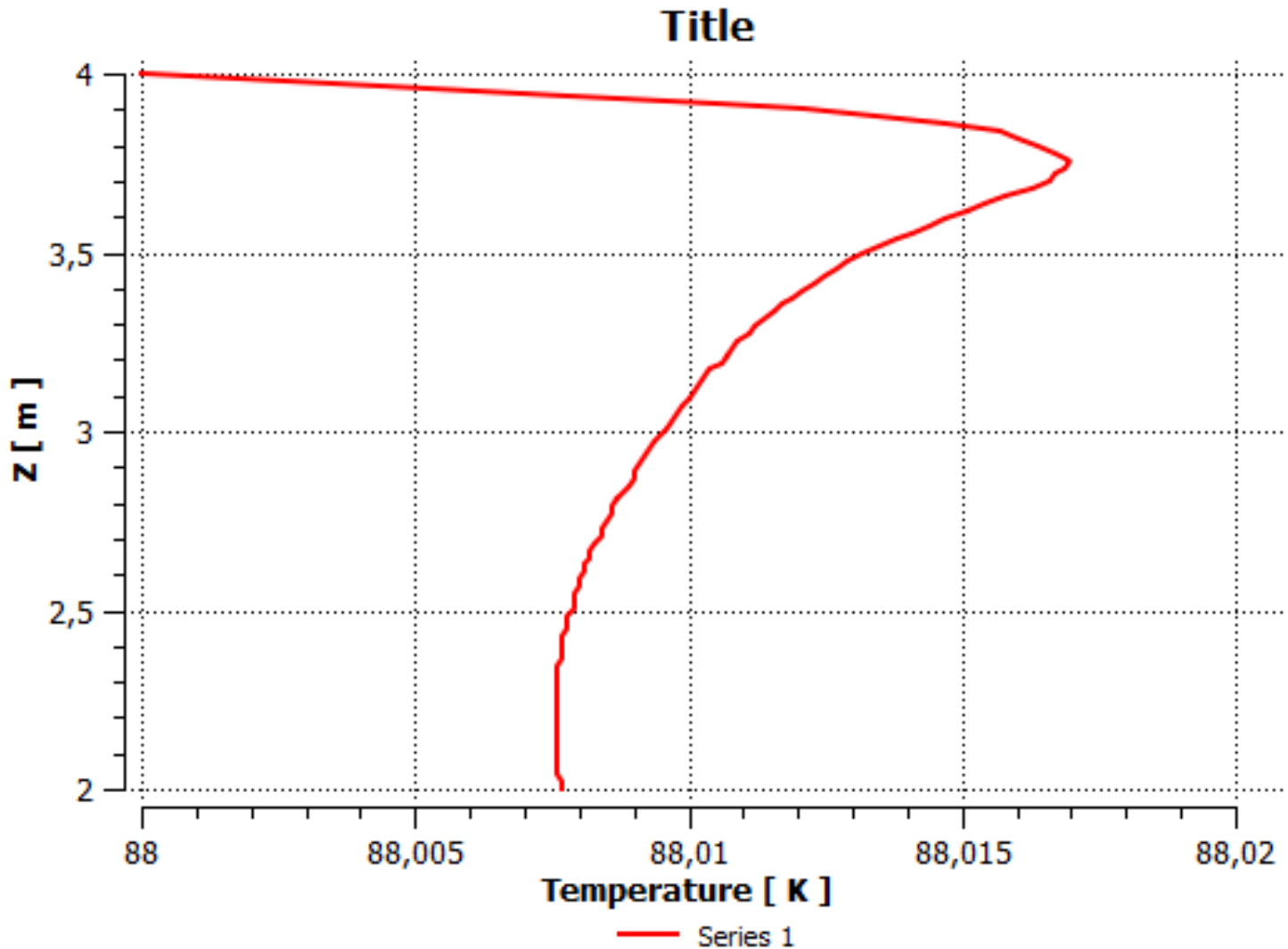
SIMULATION

- Temp profiles in Z axis



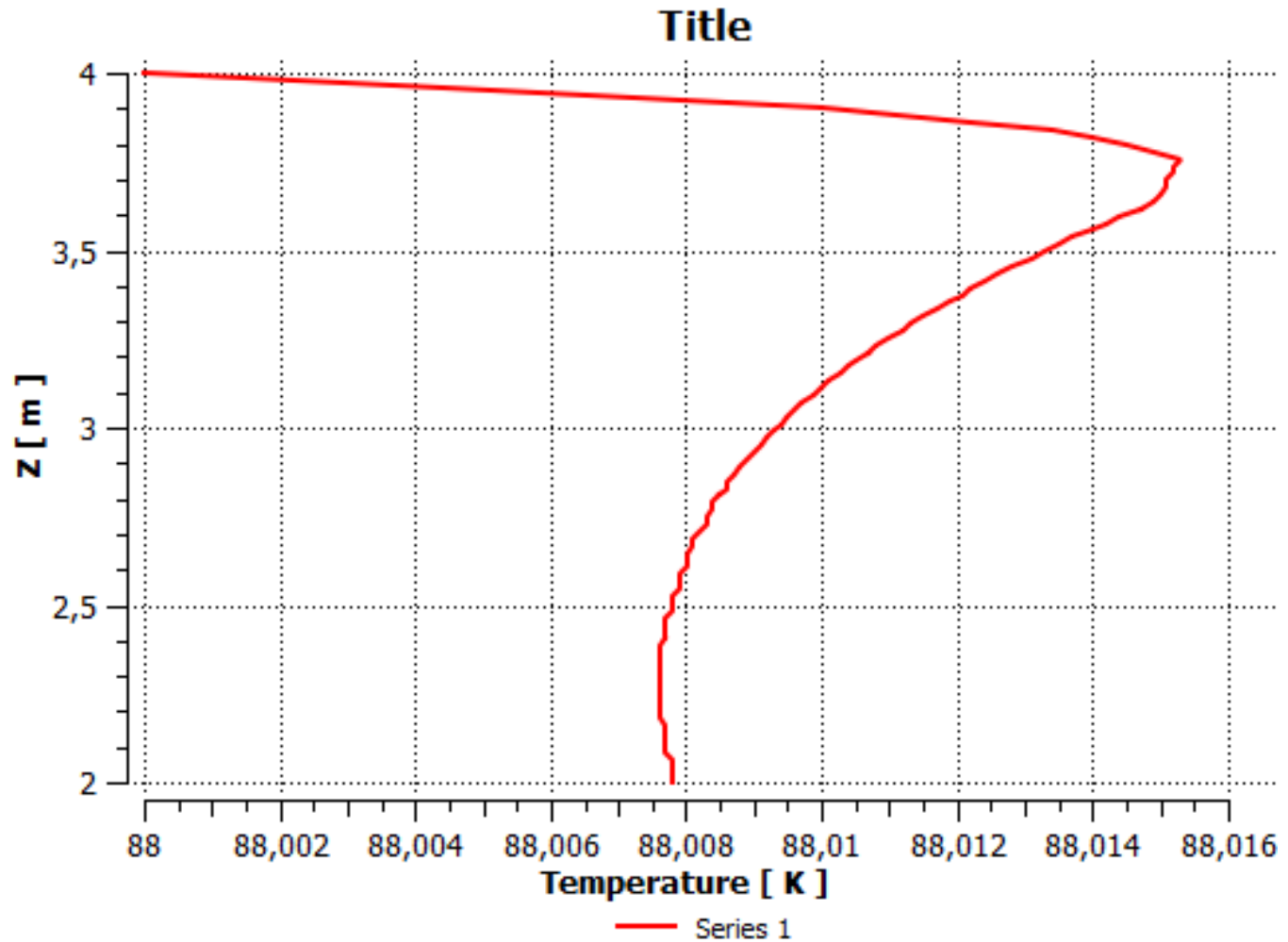
SIMULATION

- Temp profiles in Z axis



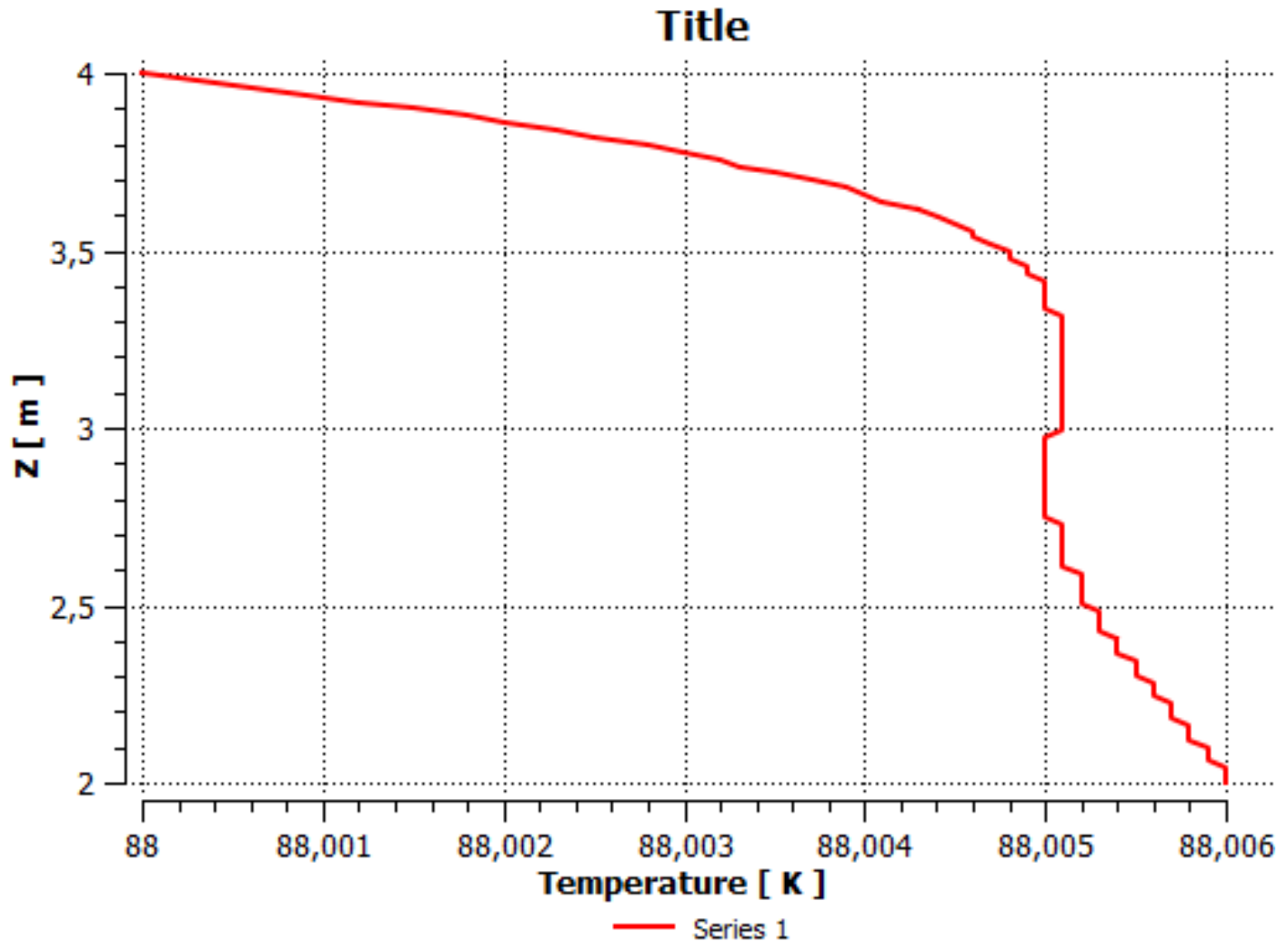
SIMULATION

- Temp profiles in Z axis



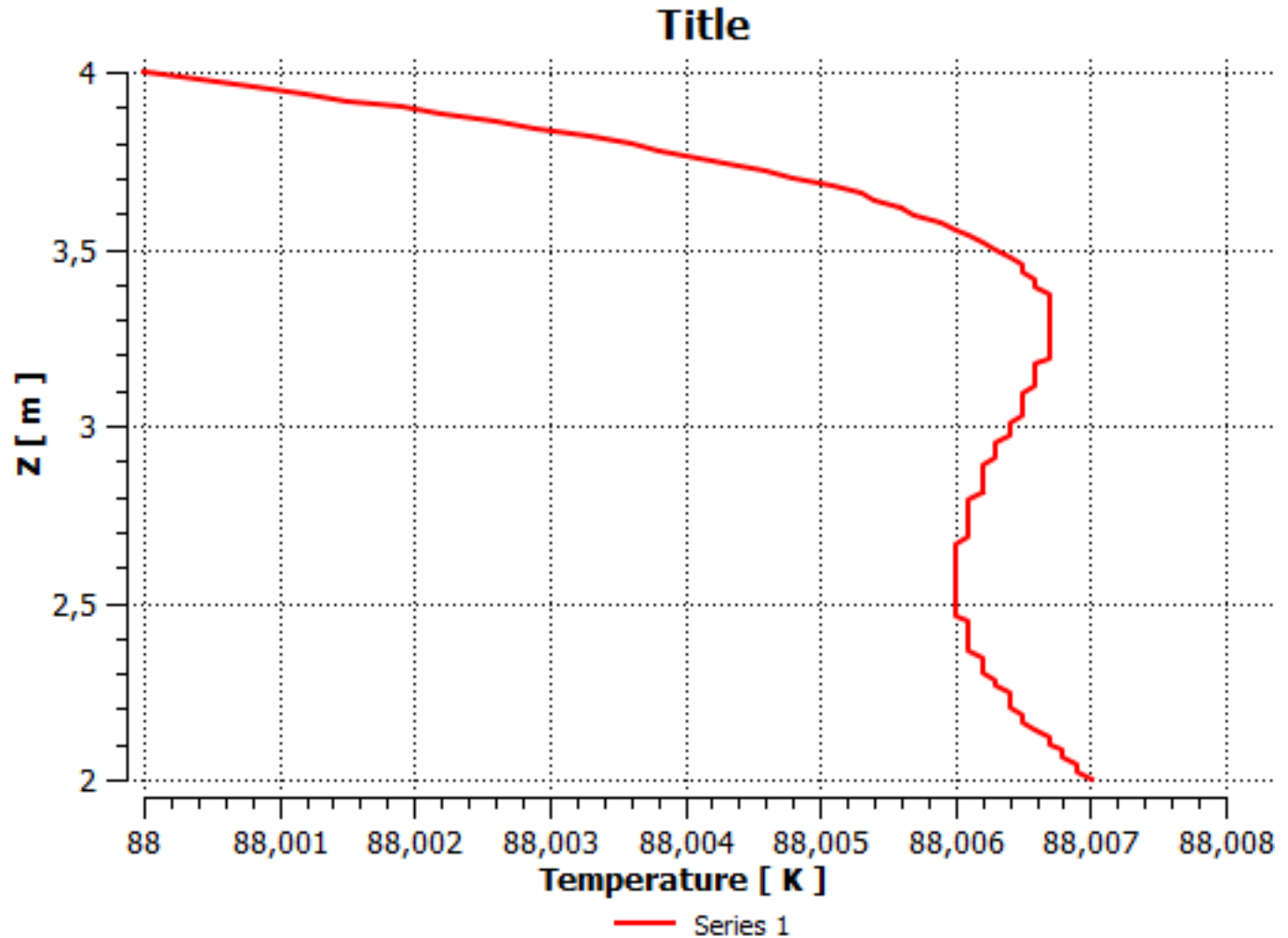
SIMULATION

- Temp profiles in Z axis



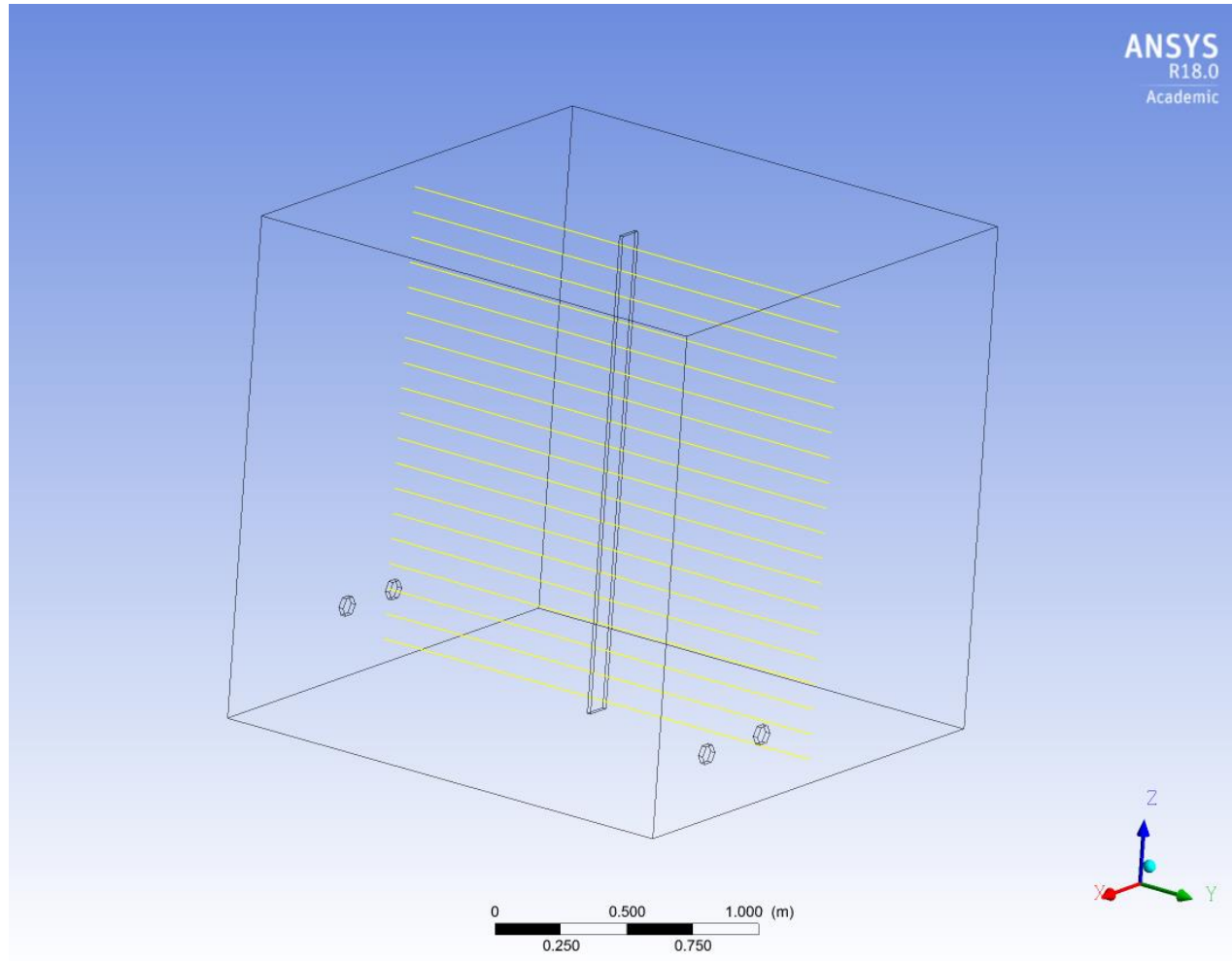
SIMULATION

- Temp profiles in Z axis



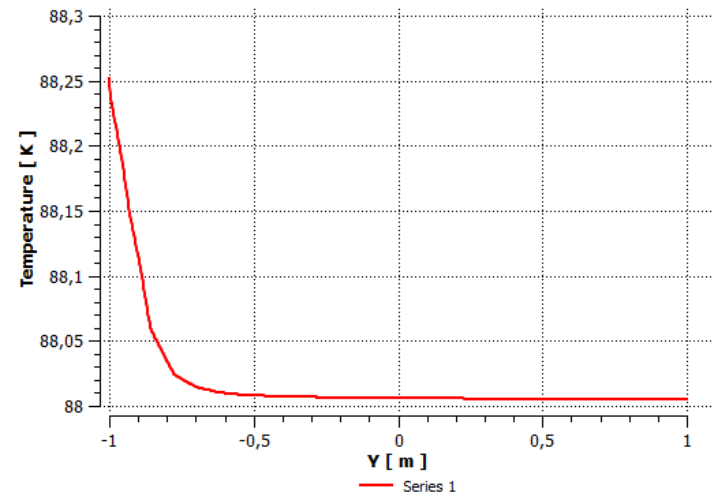
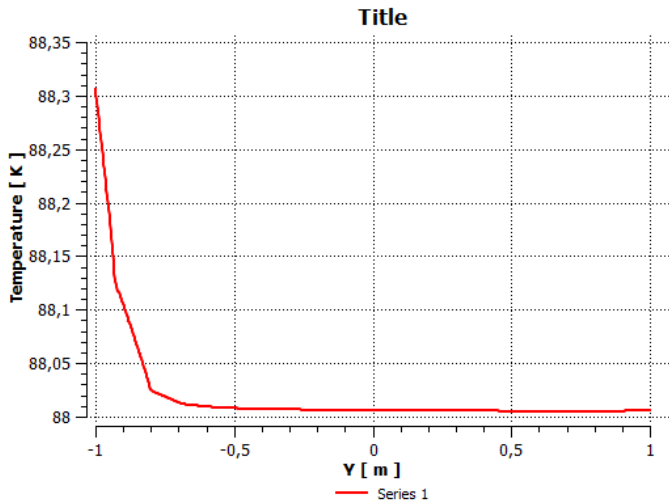
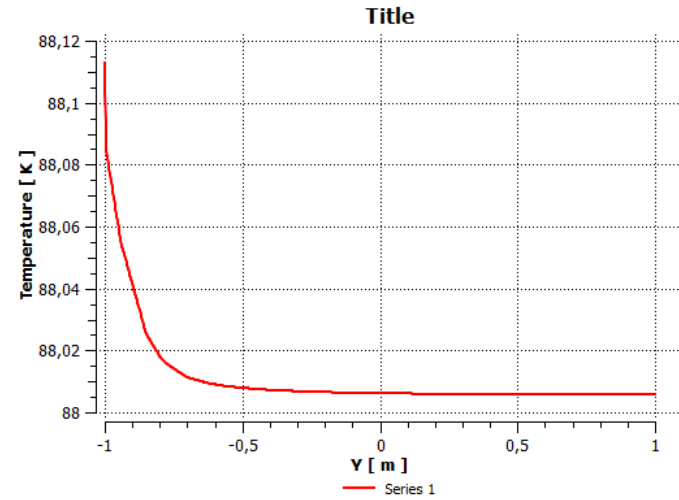
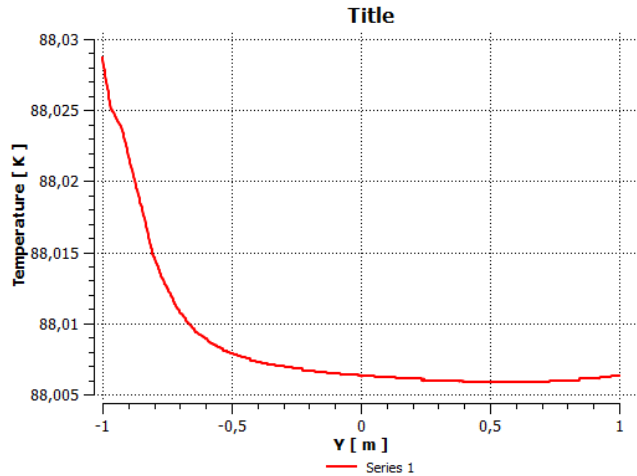
SIMULATION

- Temp profiles around aluminum tray



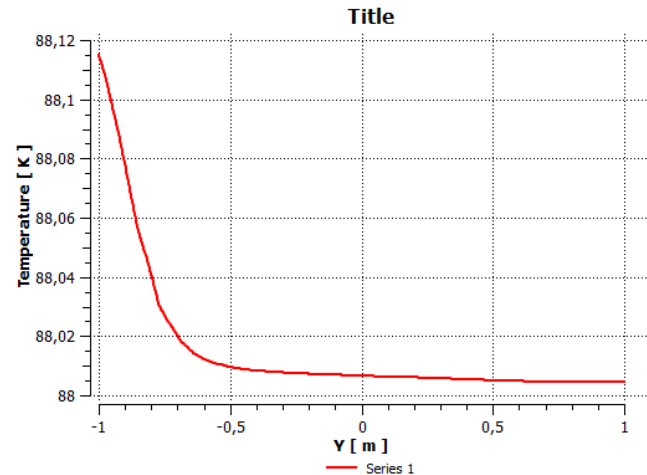
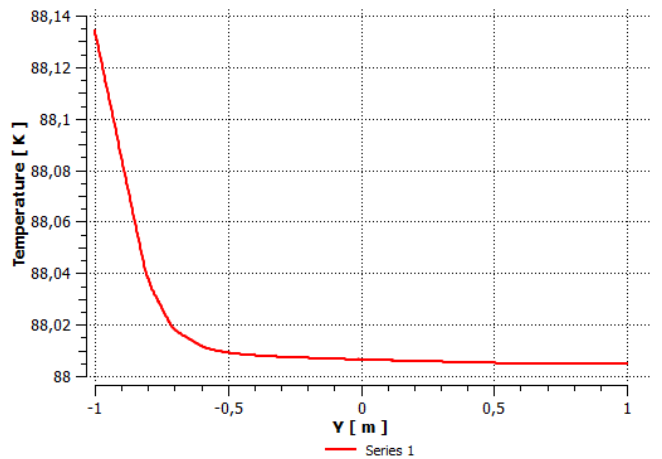
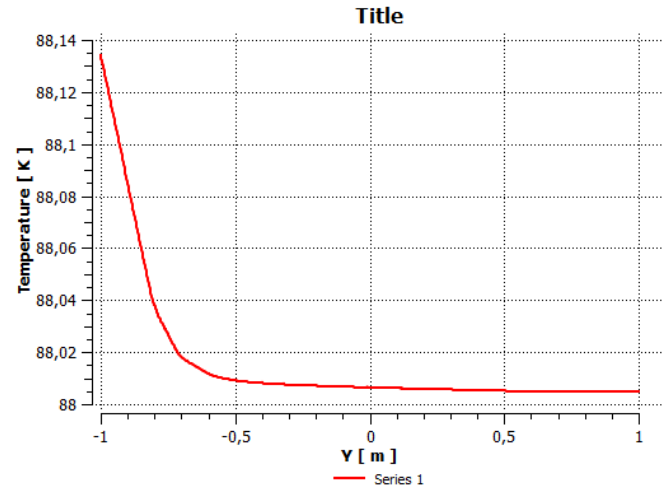
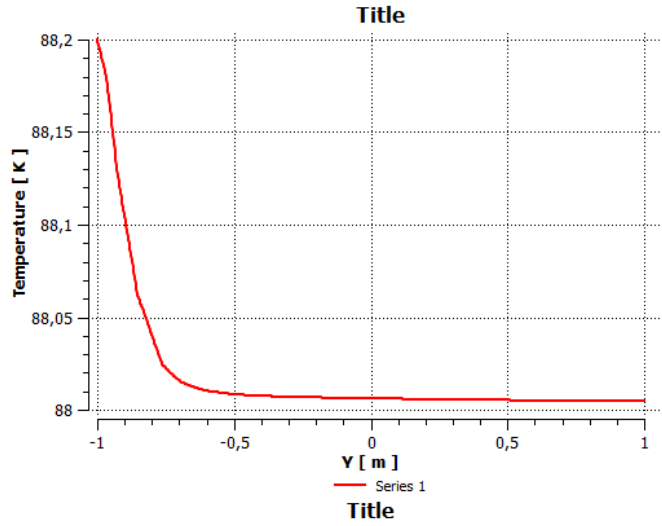
SIMULATION

- Temp profiles around aluminum tray



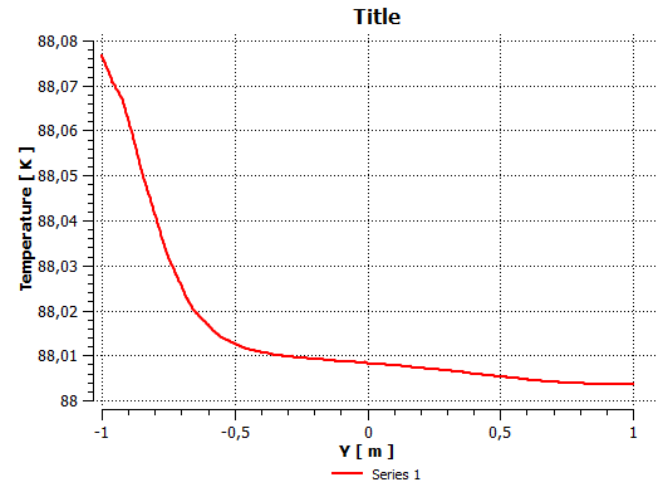
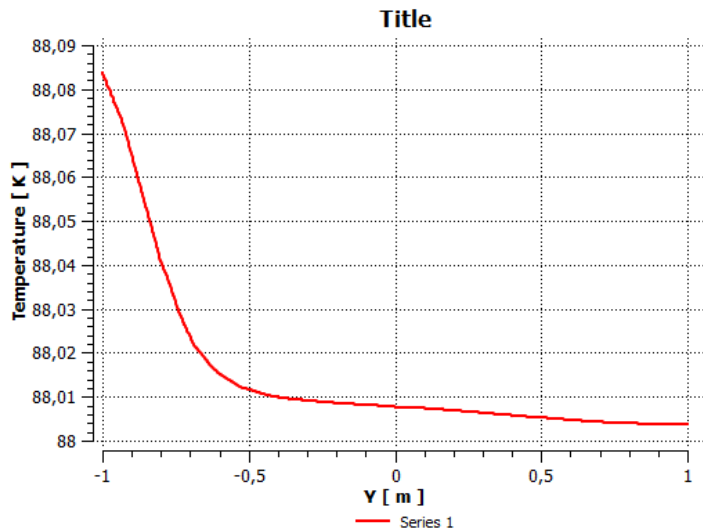
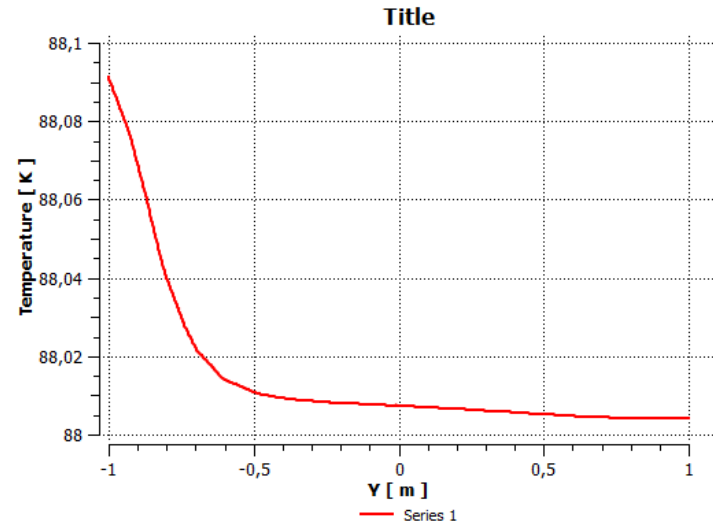
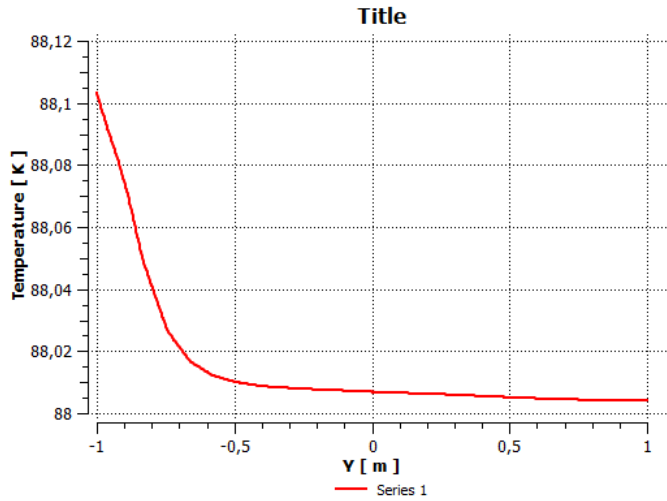
SIMULATION

- Temp profiles around aluminum tray



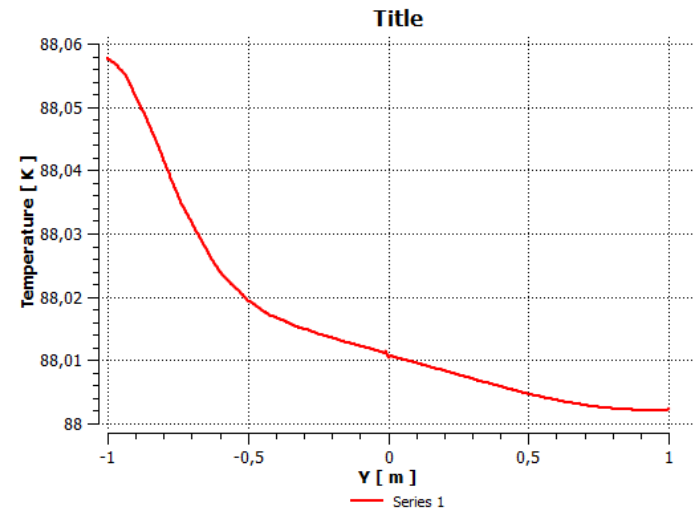
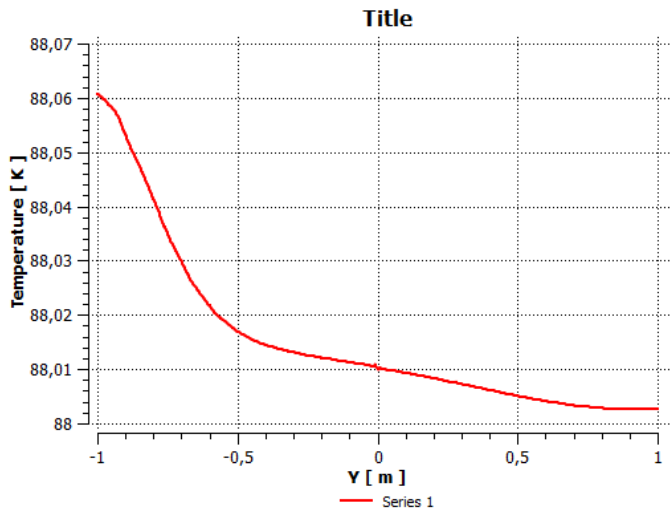
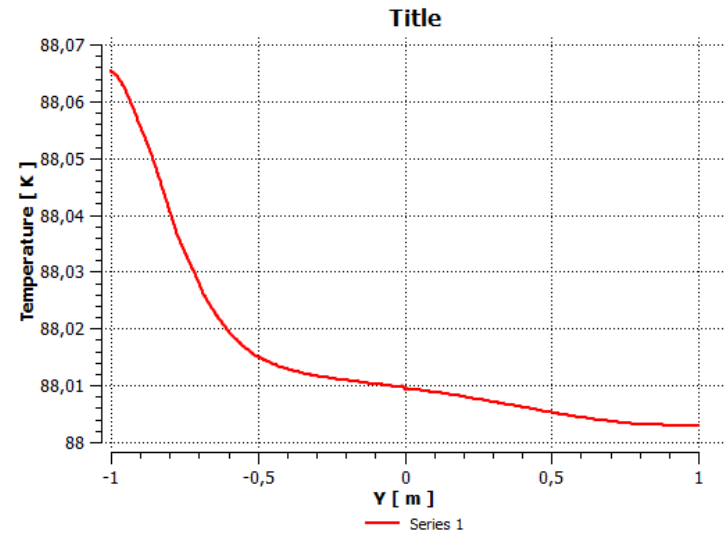
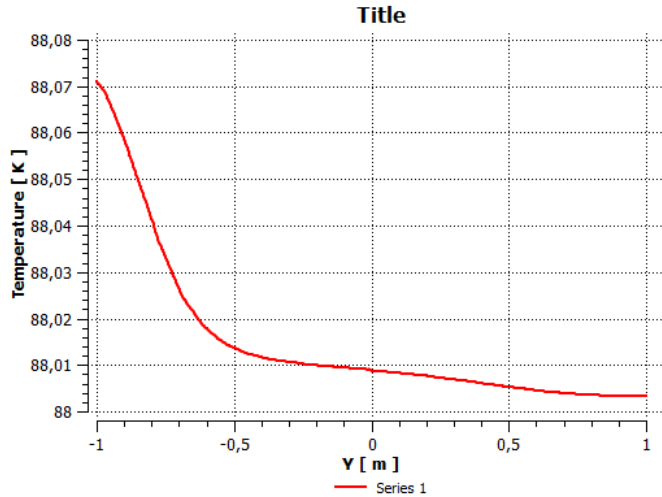
SIMULATION

- Temp profiles around aluminum tray



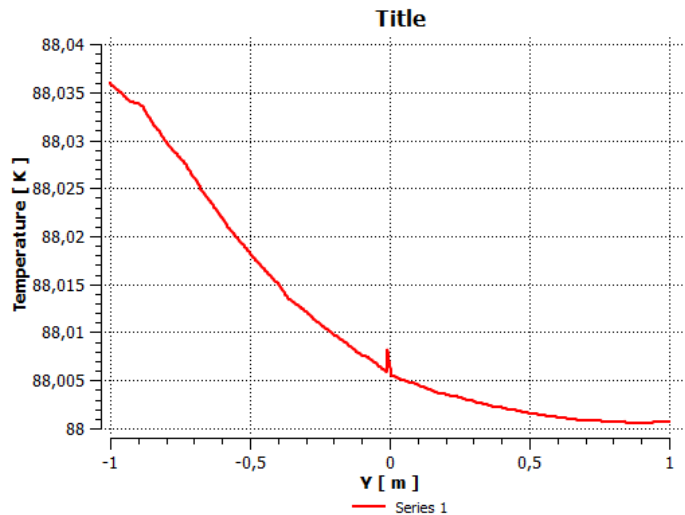
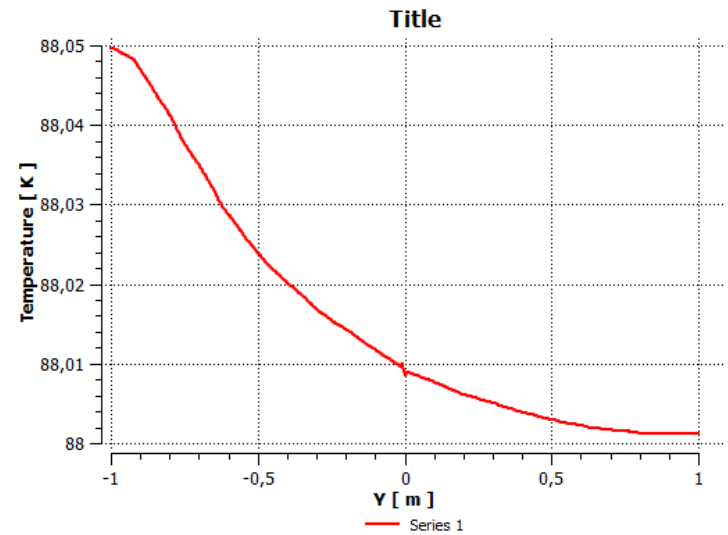
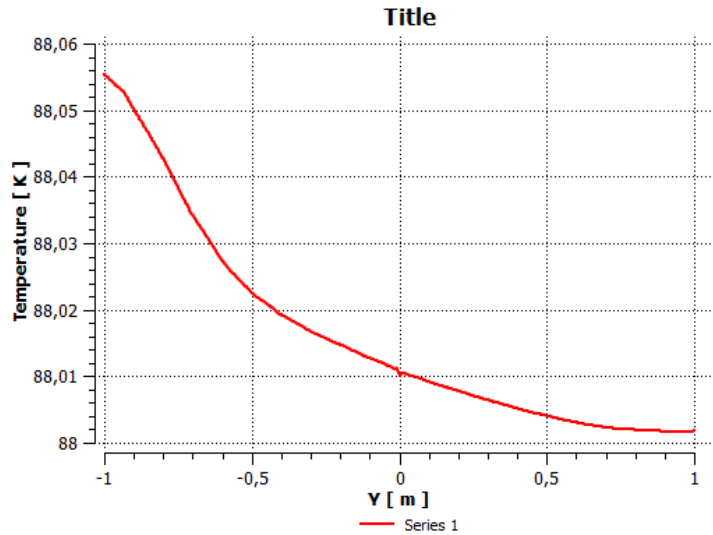
SIMULATION

- Temp profiles around aluminum tray



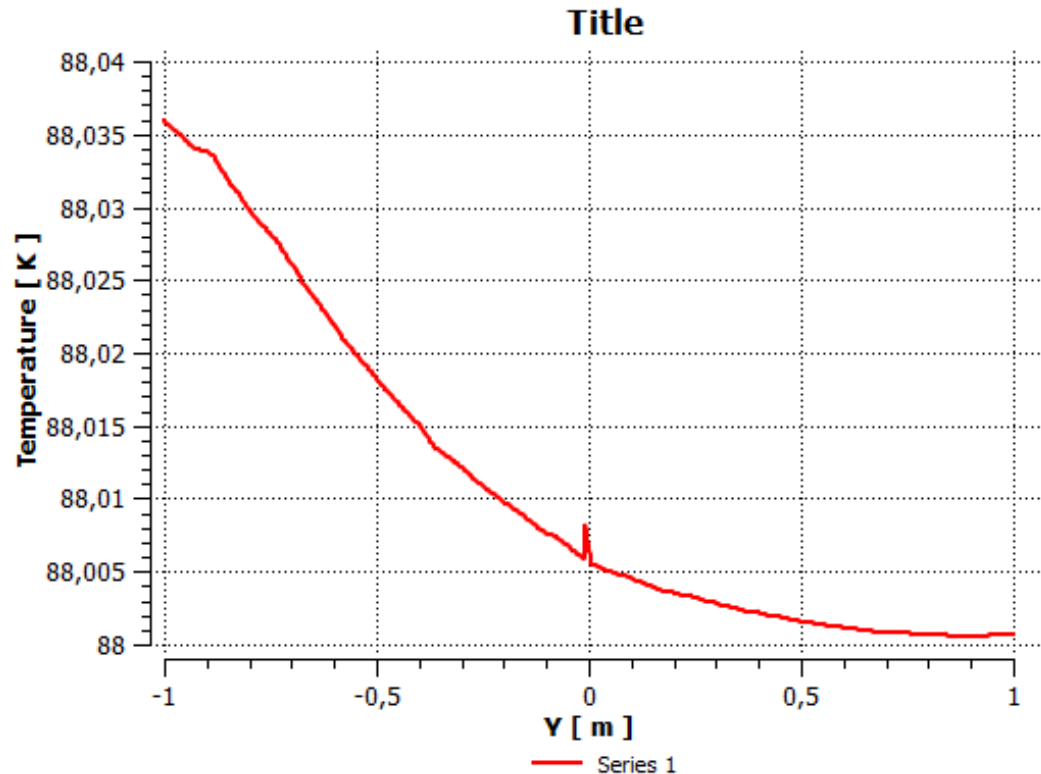
SIMULATION

- Temp profiles around aluminum tray



SIMULATION

- Temp profiles around aluminum tray



Worst point, in the very top of the tray. We see the difference between LAr temp And aluminum temp, affected area around 1mm (we place the sensor far away from it)

SIMULATION

- Preliminary conclusions:
 - The biggest difference between tray temperature and LAr is in the top.
 - Sensors won't be affected by aluminum temperature.

- Next steps:

- Run full tank simulation.
- Validate results with official ProtoDune simulation result file
(*waiting for Eric result file*)

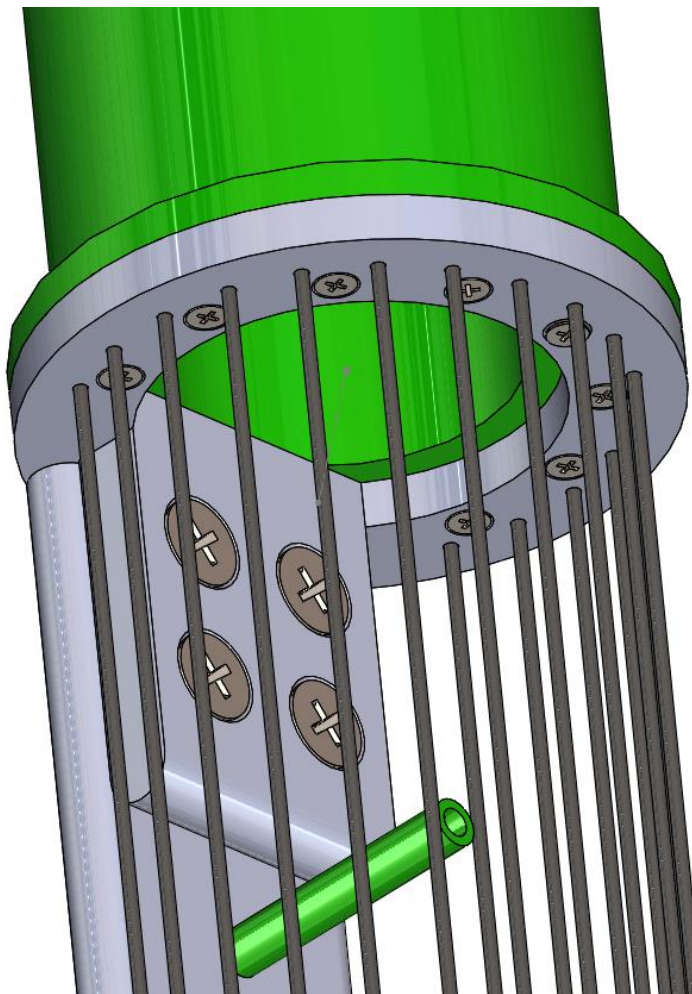
We could design a new tank based on results ProtoDune file.



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CAD DESIGNS



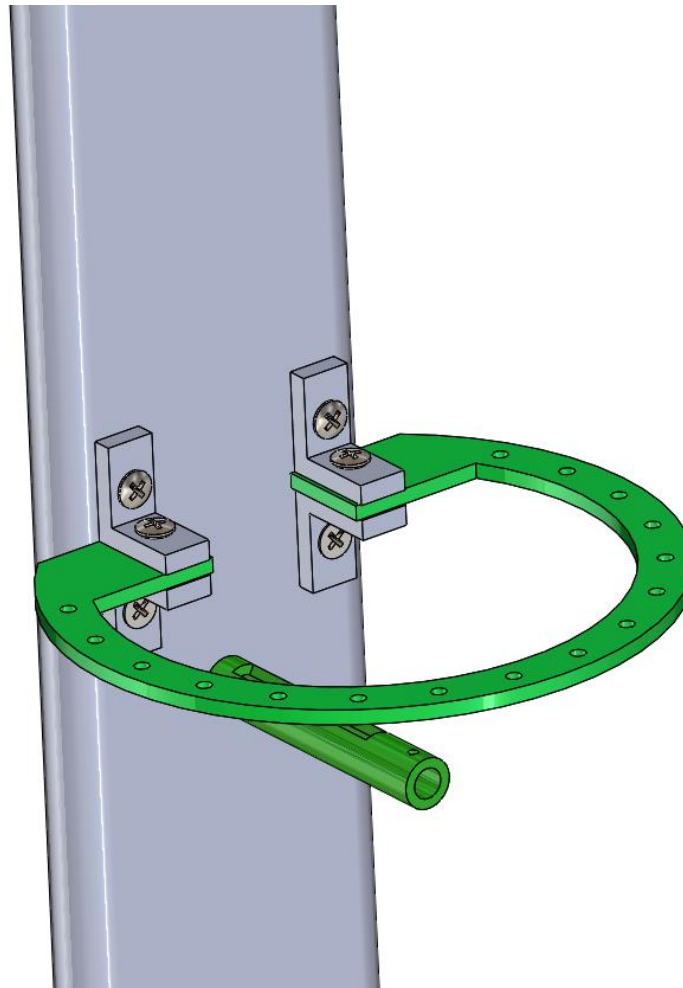
DUNE
DEEP UNDERGROUND
NEUTRINO EXPERIMENT



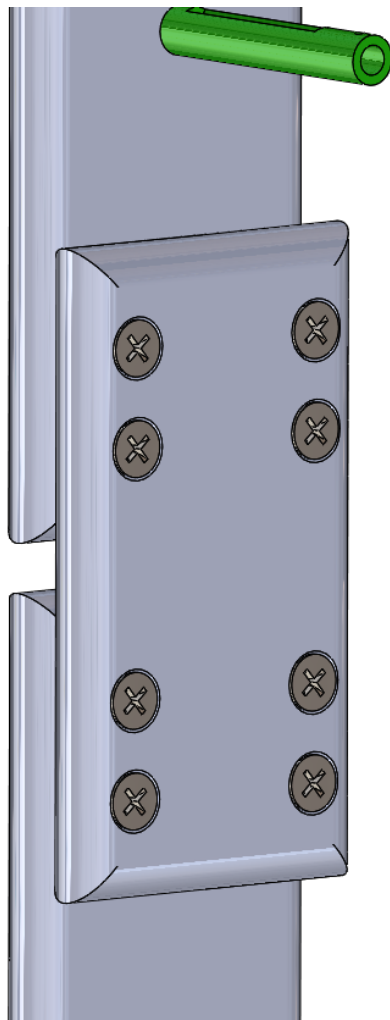
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IFIC
INSTITUT DE FÍSICA
CORPUSCULAR

CAD DESIGNS



CAD DESIGNS



CAD DESIGNS



CAD DESIGNS

- Aluminum tray tangent to grid.
- Add cables routing.
- Define cables supports.
- Prepare a 3d simplified model for 3d simulations (electromagnetics)
- ...



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