Horn A geometry

Žarko Pavlović

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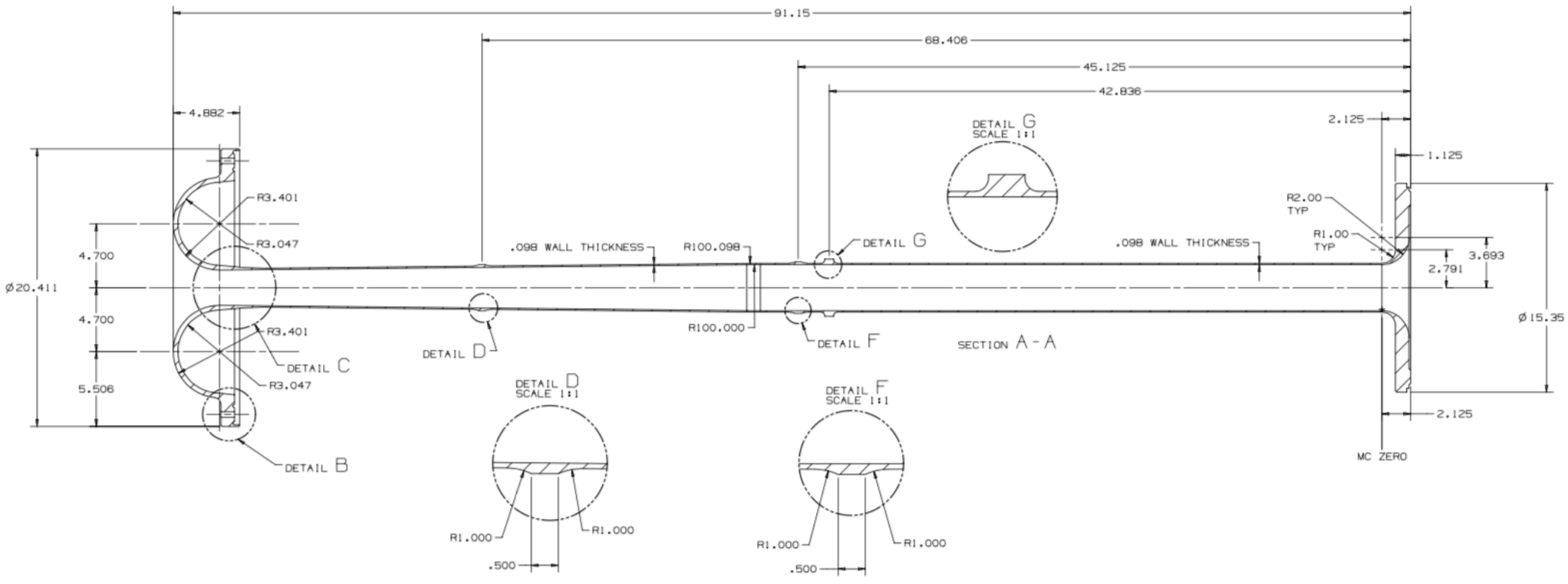
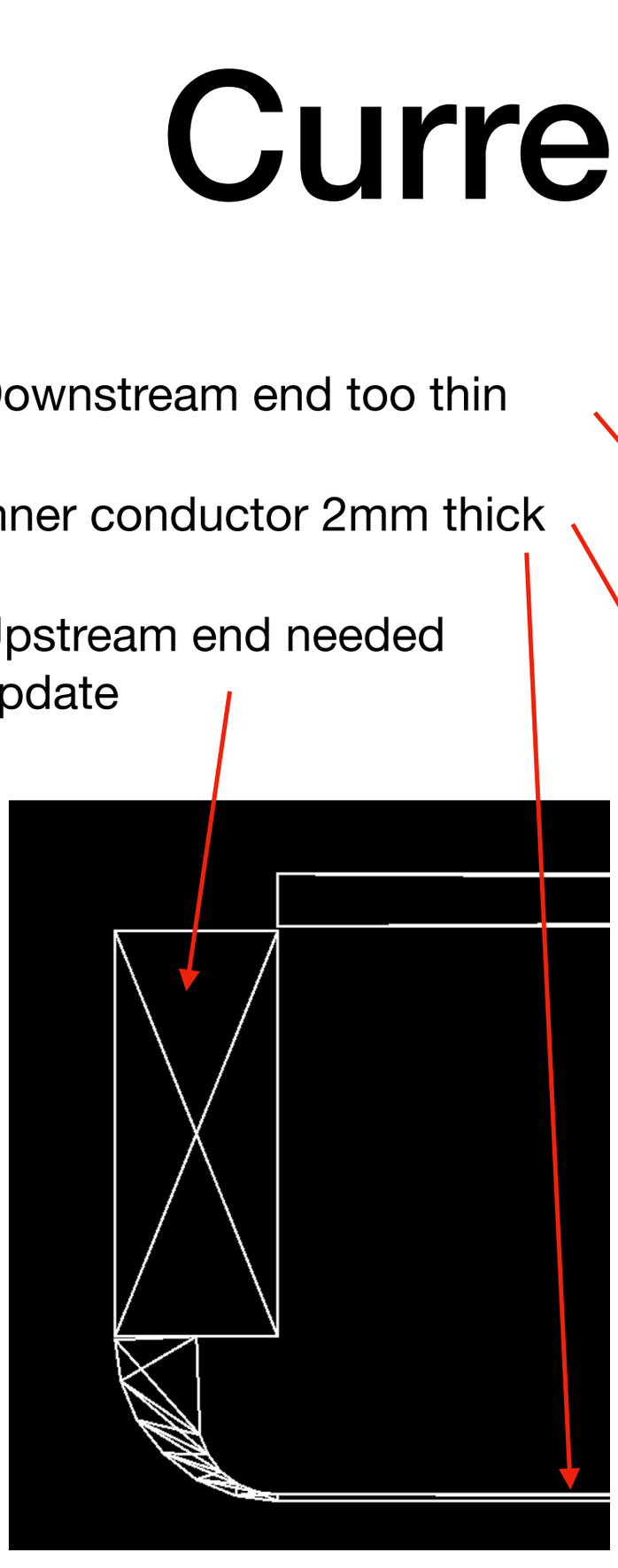
Geometry update

- Cory sent updated horn A drawings
- Downstream end transition from inner to outer made thicker

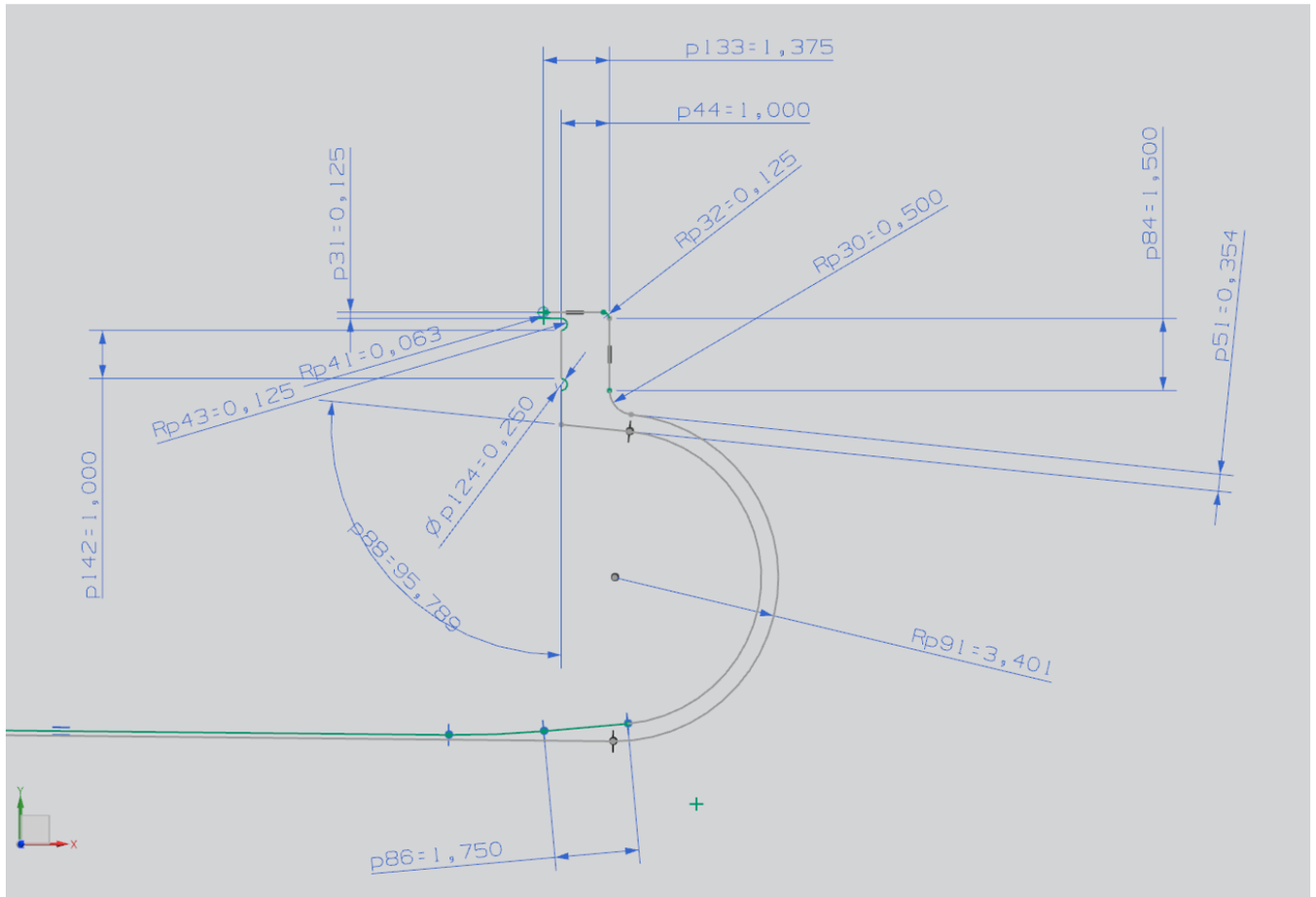


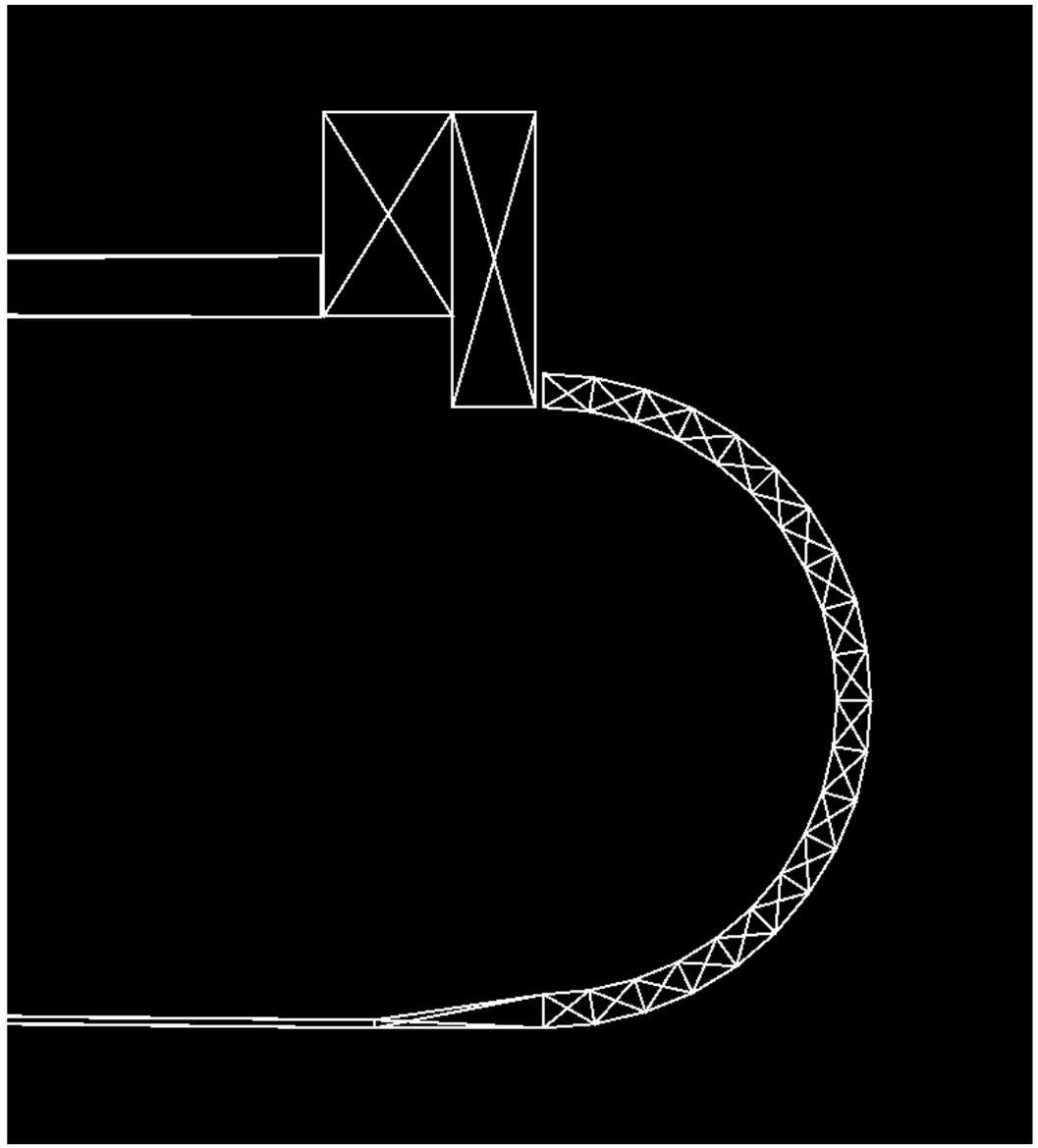
Current geometry

- Downstream end too thin
- Inner conductor 2mm thick
- Upstream end needed update

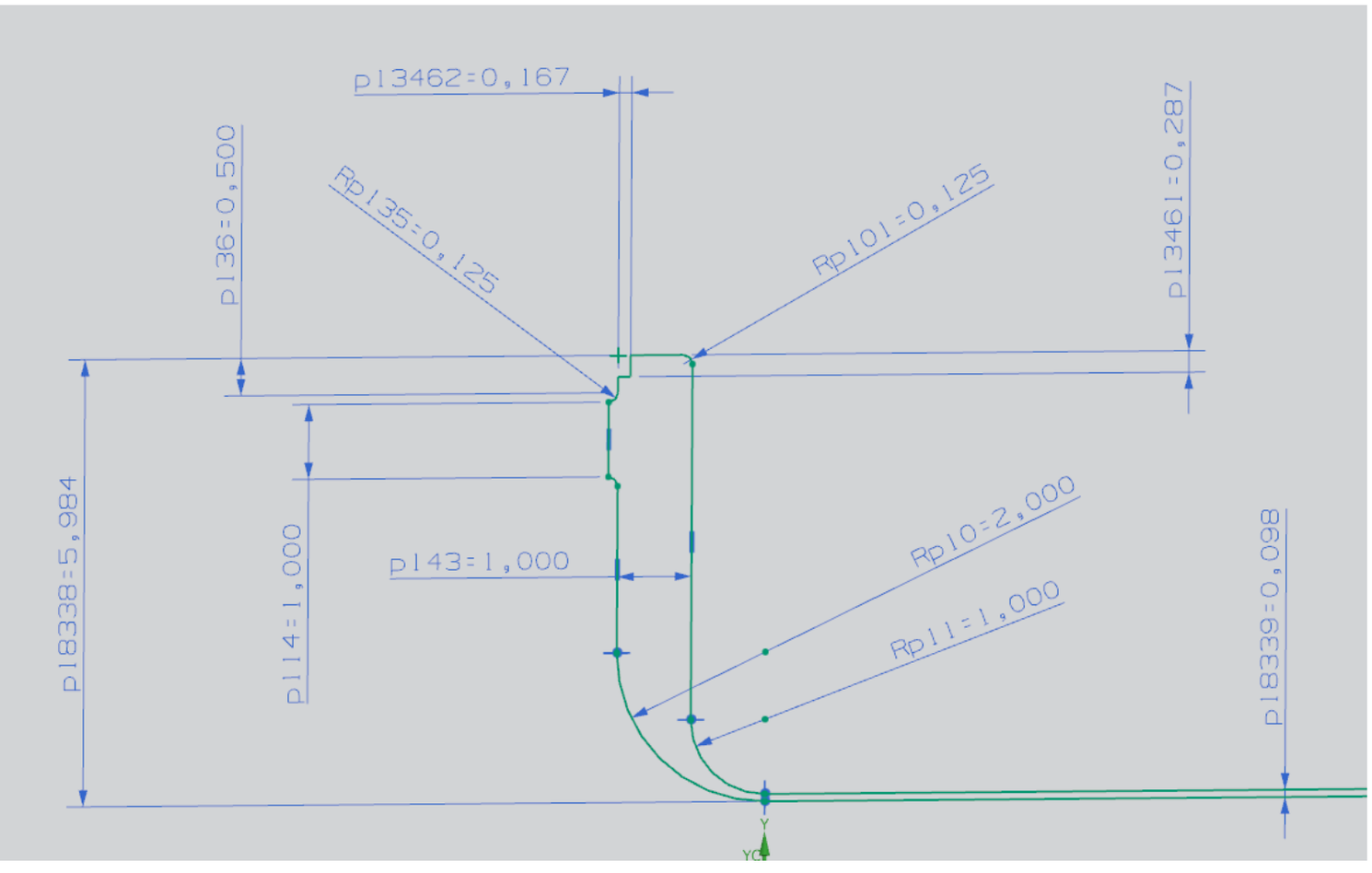


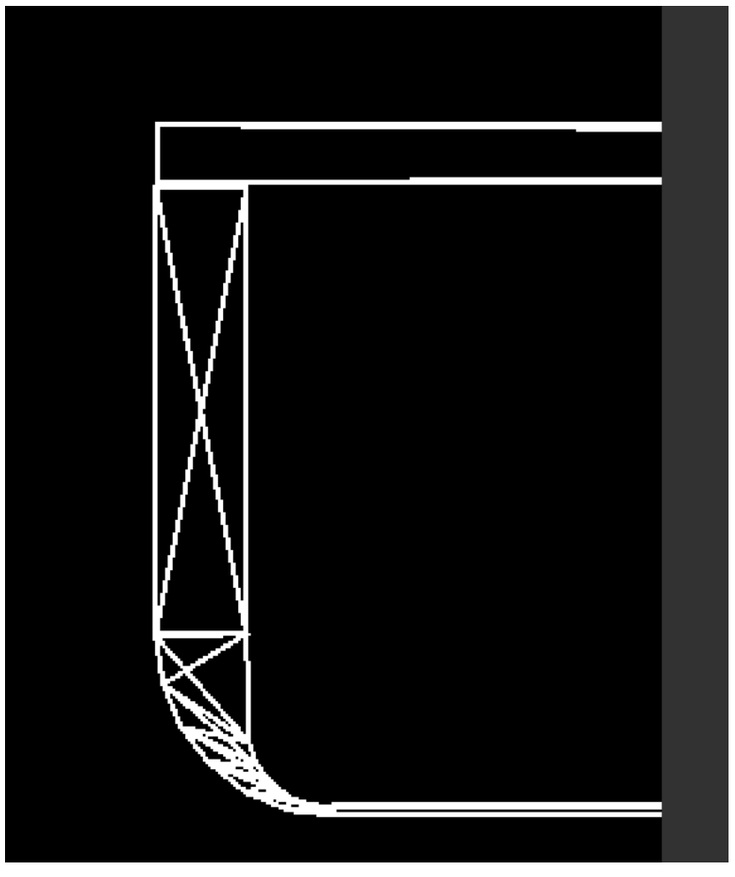
Downstream


p133=1,375
p44=1,000
p31=0,125
Rp32=0,125
Rp30=0,500
p84=1,500
p51=0,354
Rp41=0,063
Rp43=0,125
ϕp124=0,250
p142=1,000
p88=95,789
Rp91=3,401
p86=1,750



Upstream

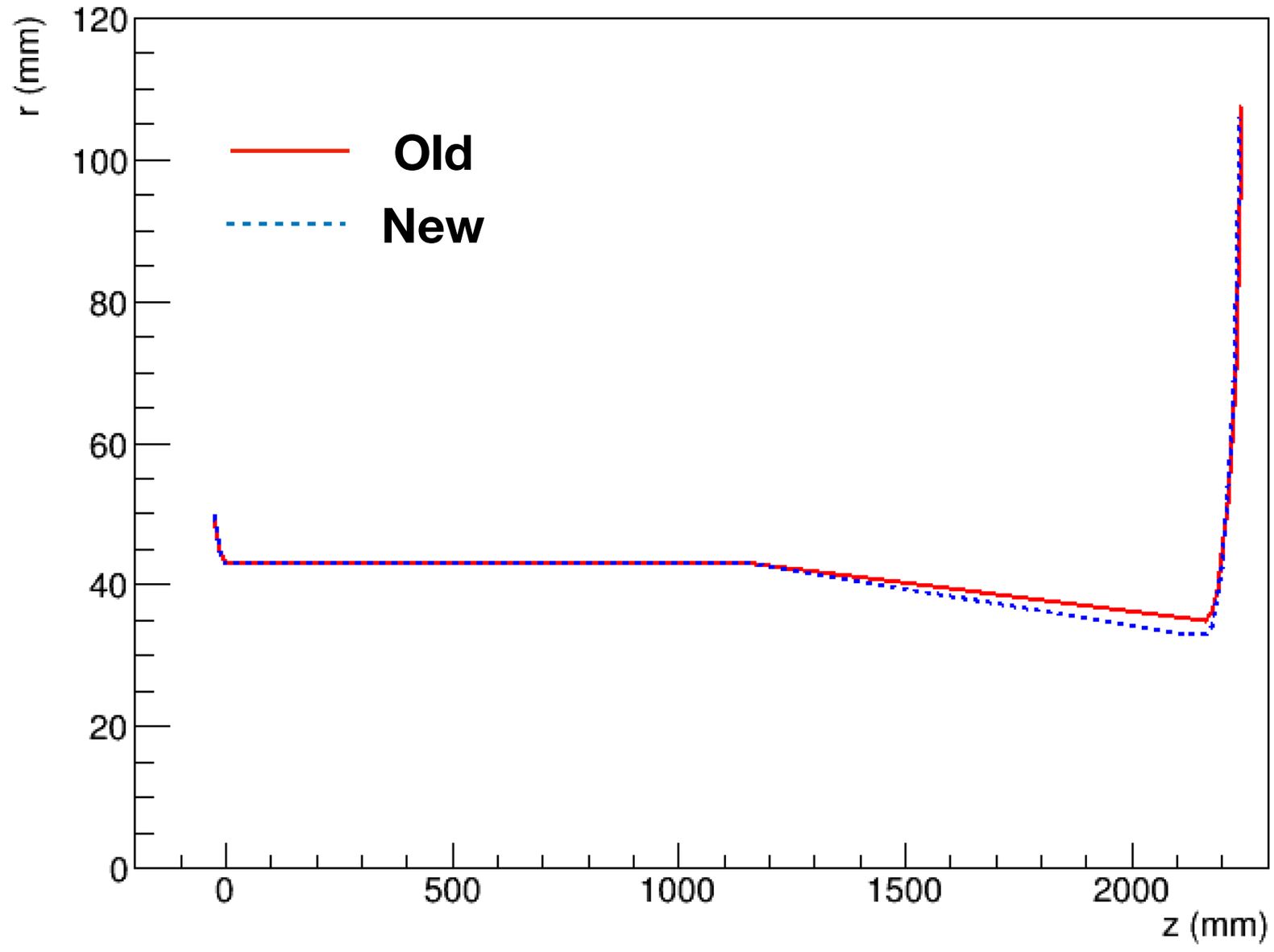

p13462=0,167
p136=0,500
Rp135=0,125
Rp101=0,125
p13461=0,287
p18338=5,984
p114=1,000
p143=1,000
Rp10=2,000
Rp11=1,000
p18339=0,098
Y
YC



Old vs new

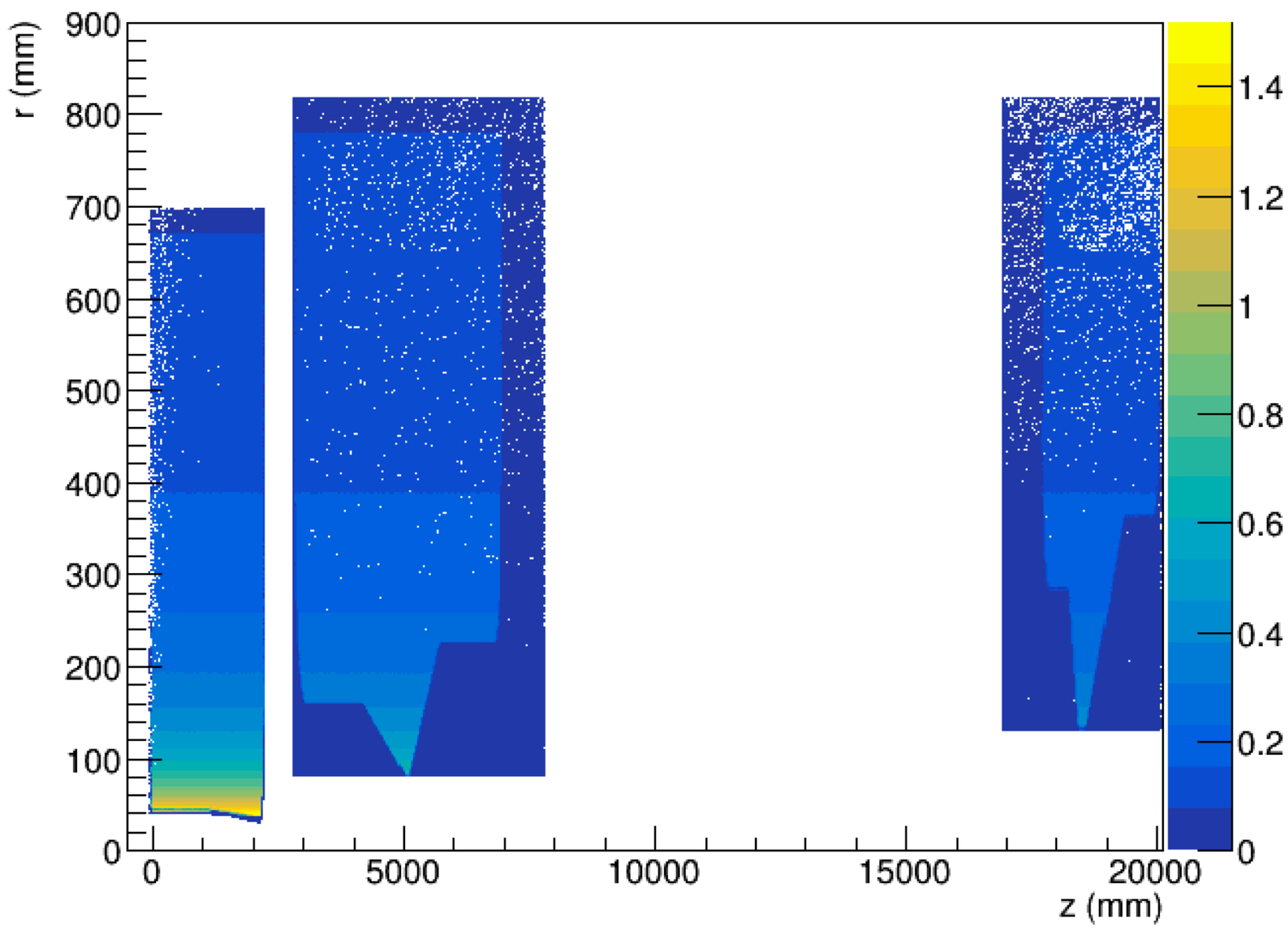
- Geometry used in magnetic field function kept separately

- Checked that magnetic field picks up the changes



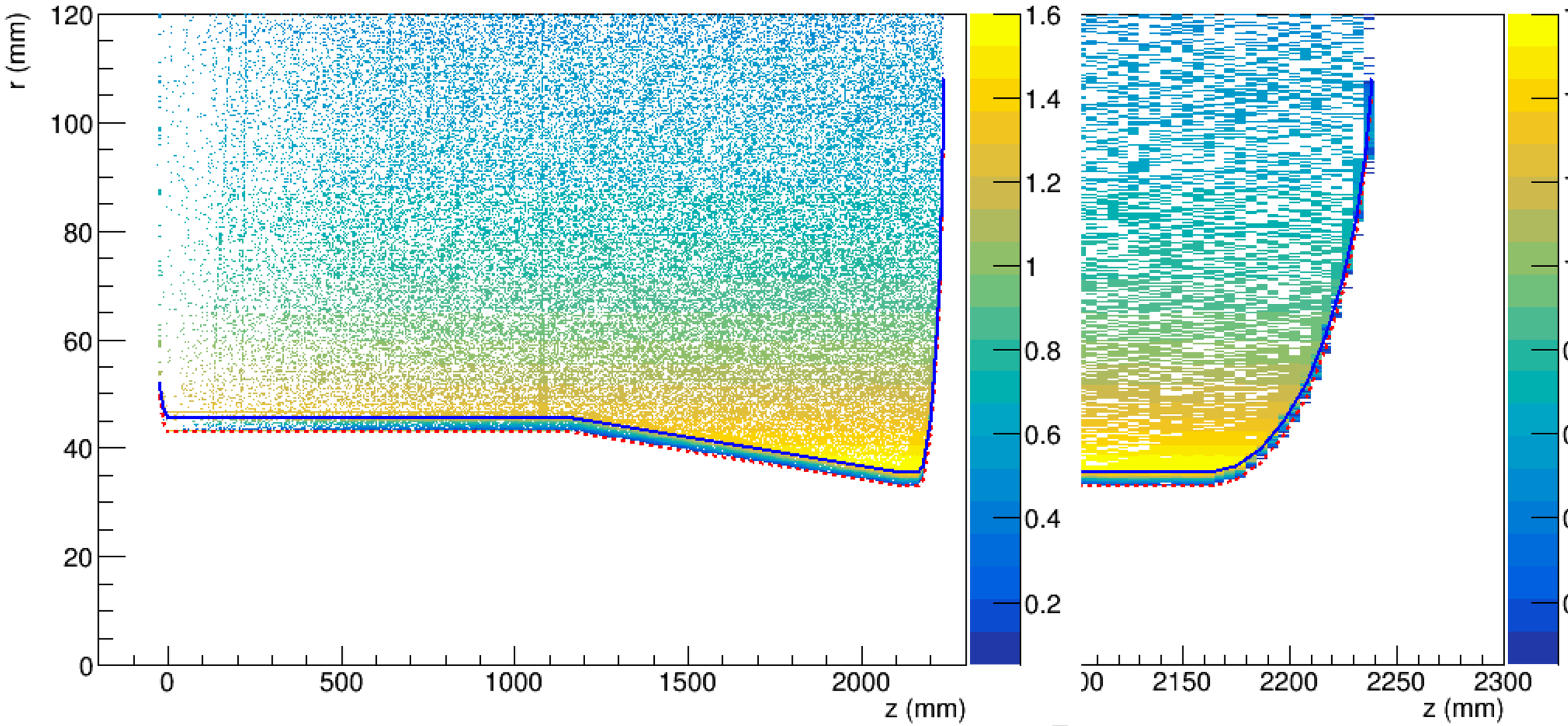
Magnetic field

- Keeps separate geometry information
  - R/Z points for polycone generated during horn geometry construction
- Field in horn A goes up to 670mm

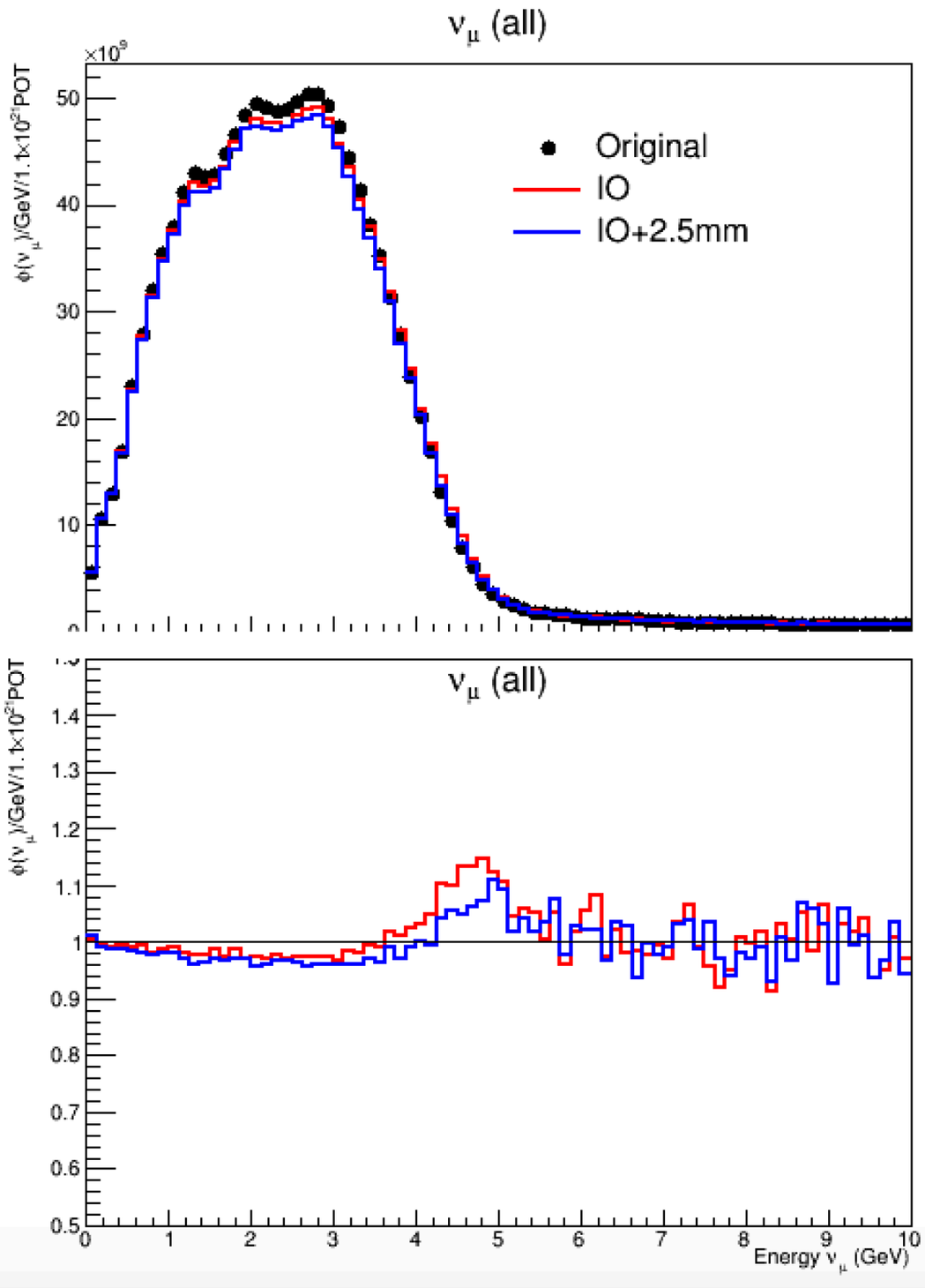


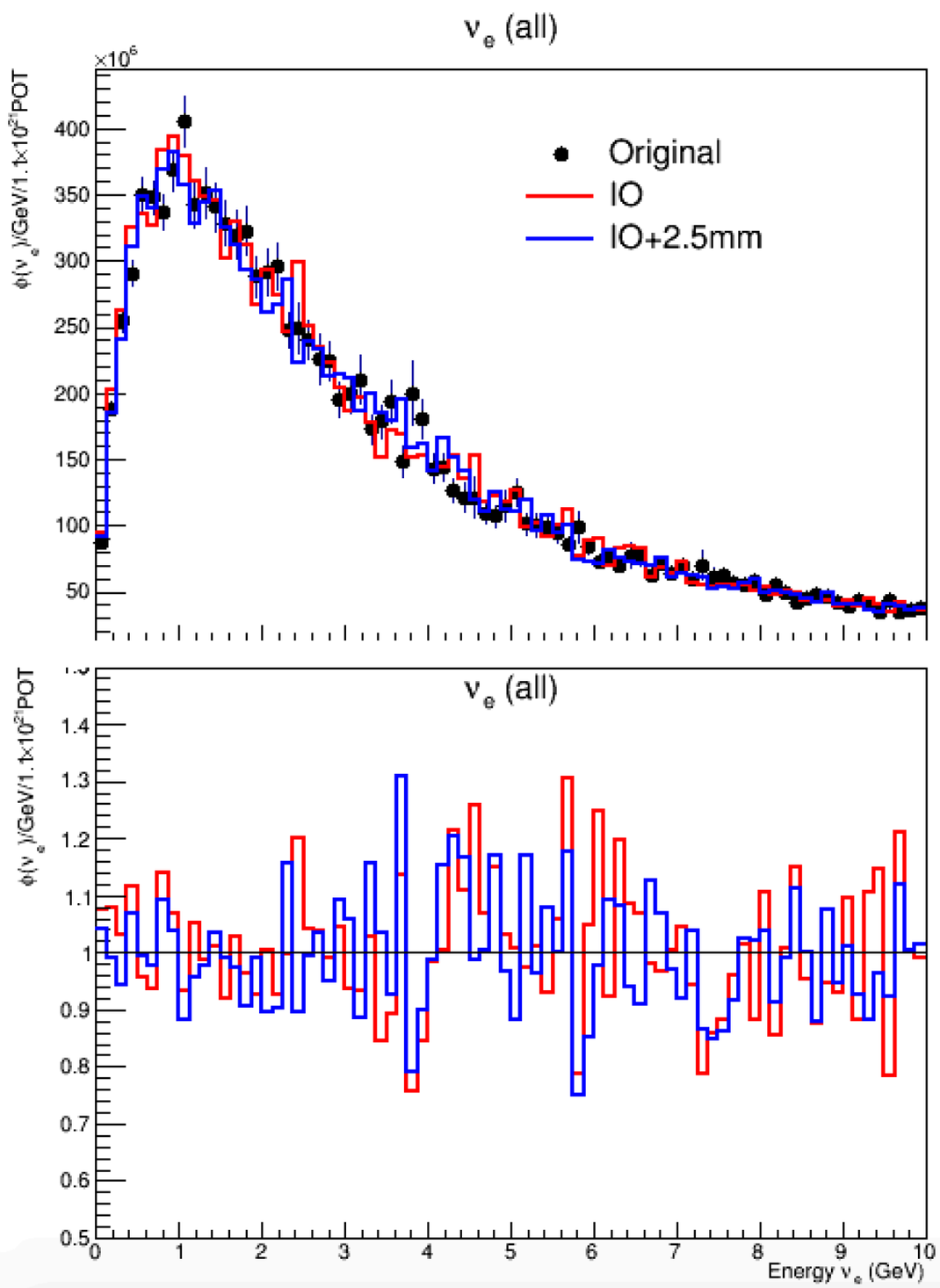
Horn A

- Checked that magnetic field and new conductor shape consistent



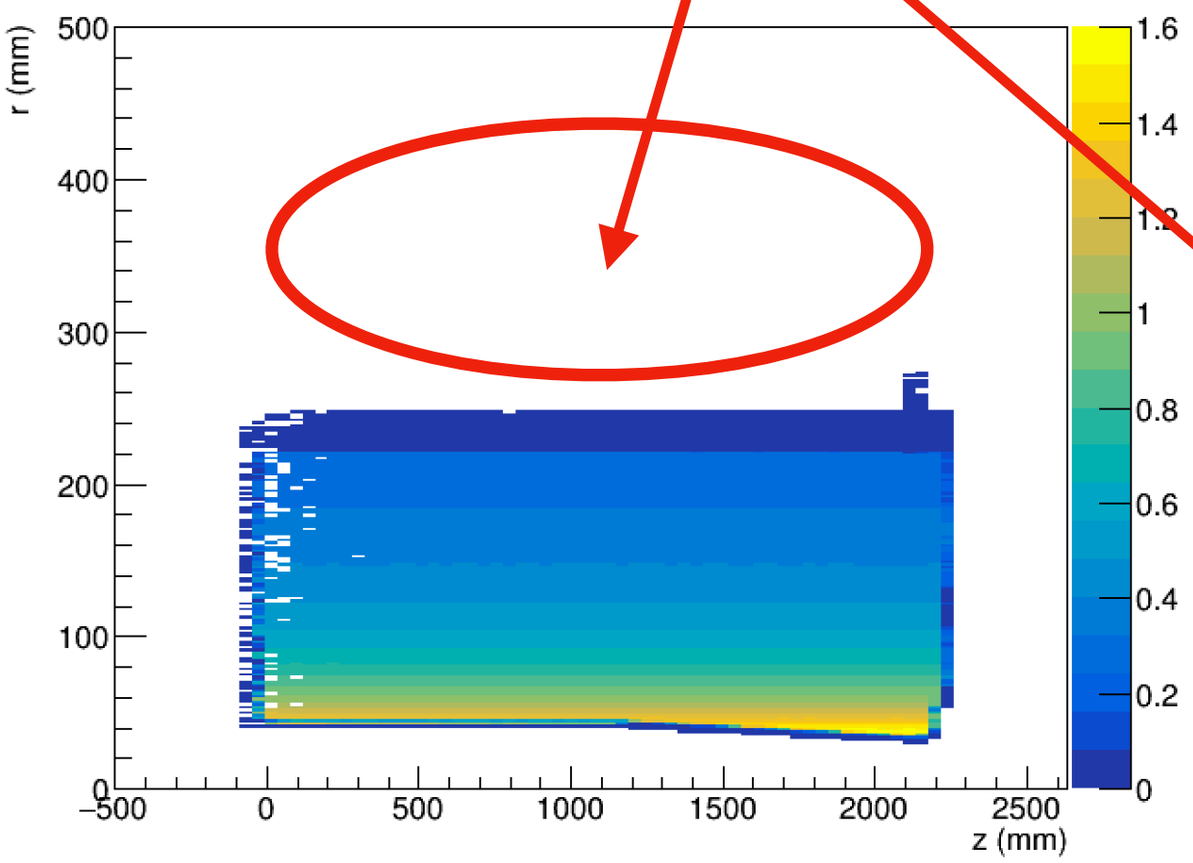
Neutrino flux

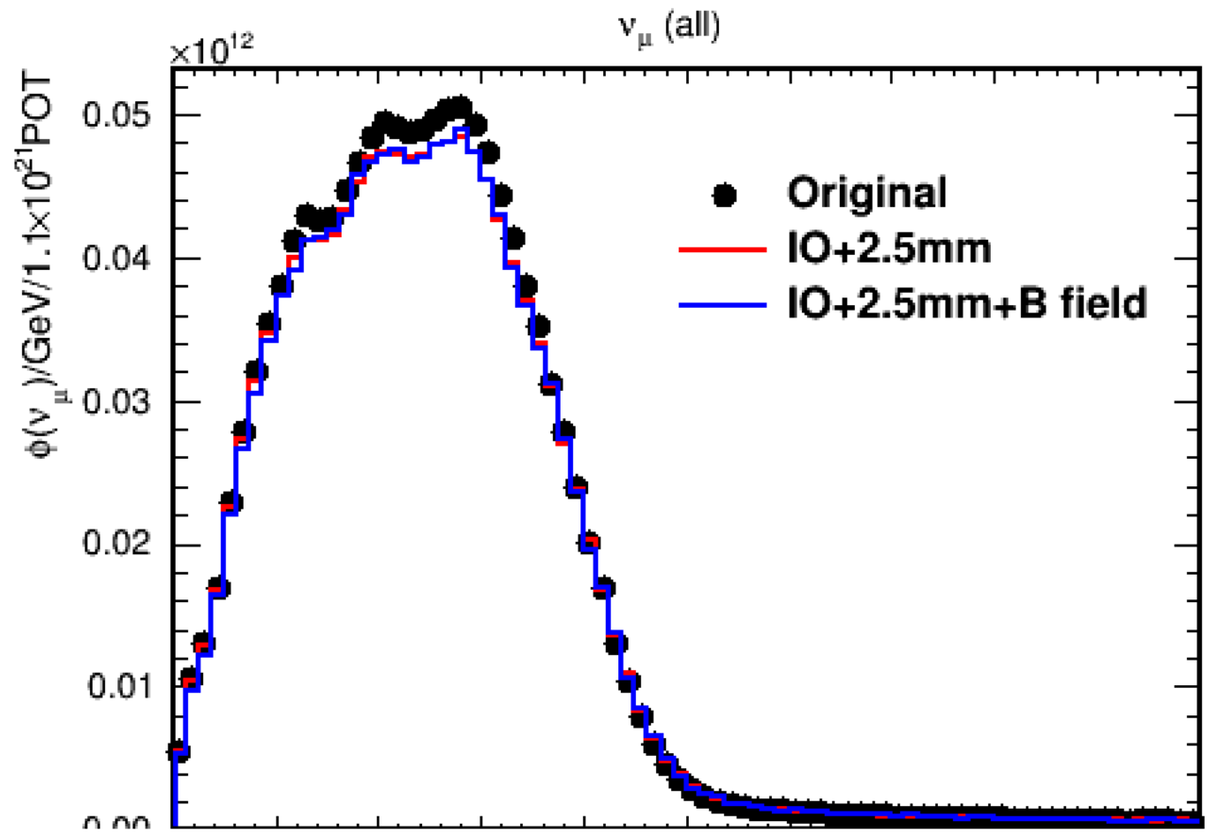


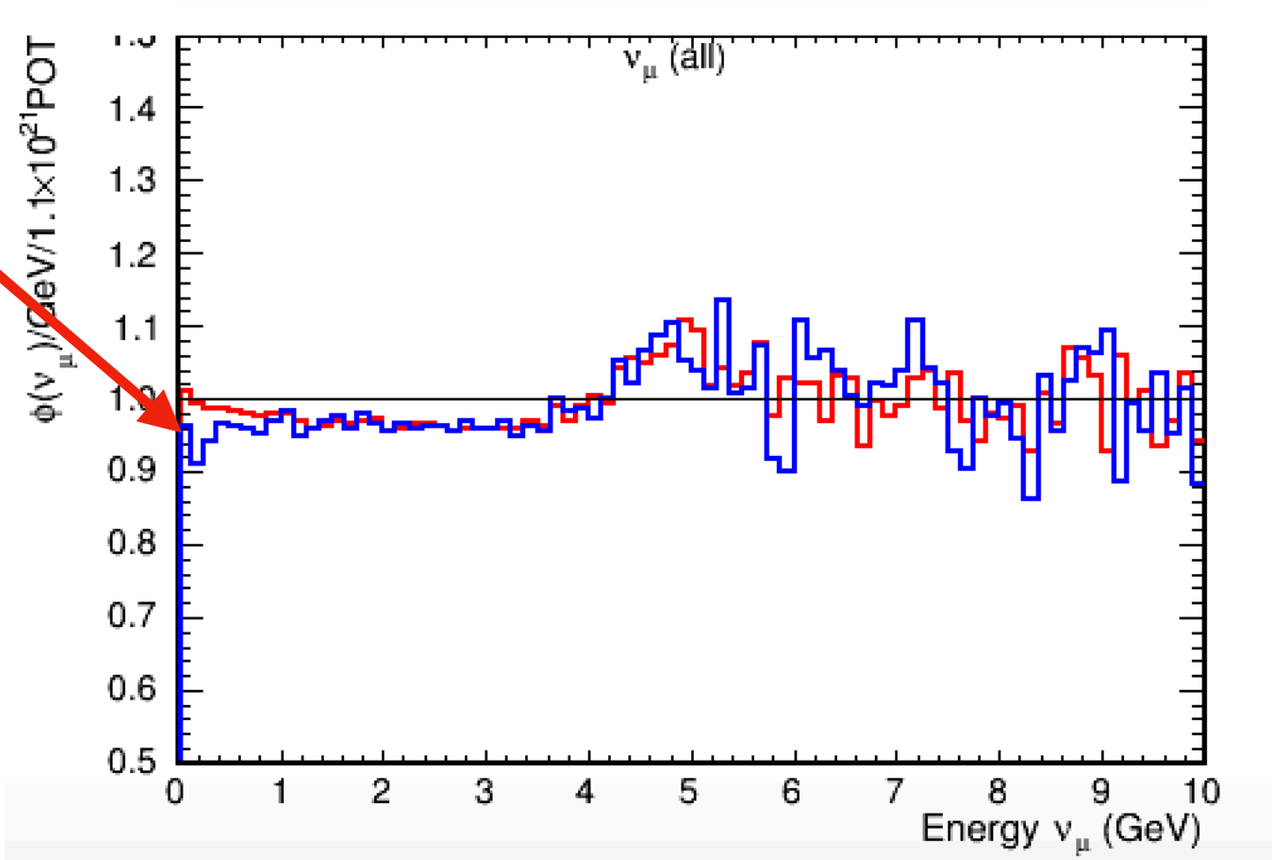


B field

- Set B field to 0 outside of horn A







Conclusion

- Implemented changes in horn A geometry
    - Thicker downstream transition from inner to outer conductor
        - Fixed upstream end
        - Changed inner conductor thickness from 2mm to 2.5mm
- Few more things to fix