Towards the Design of Q2pF Lead End

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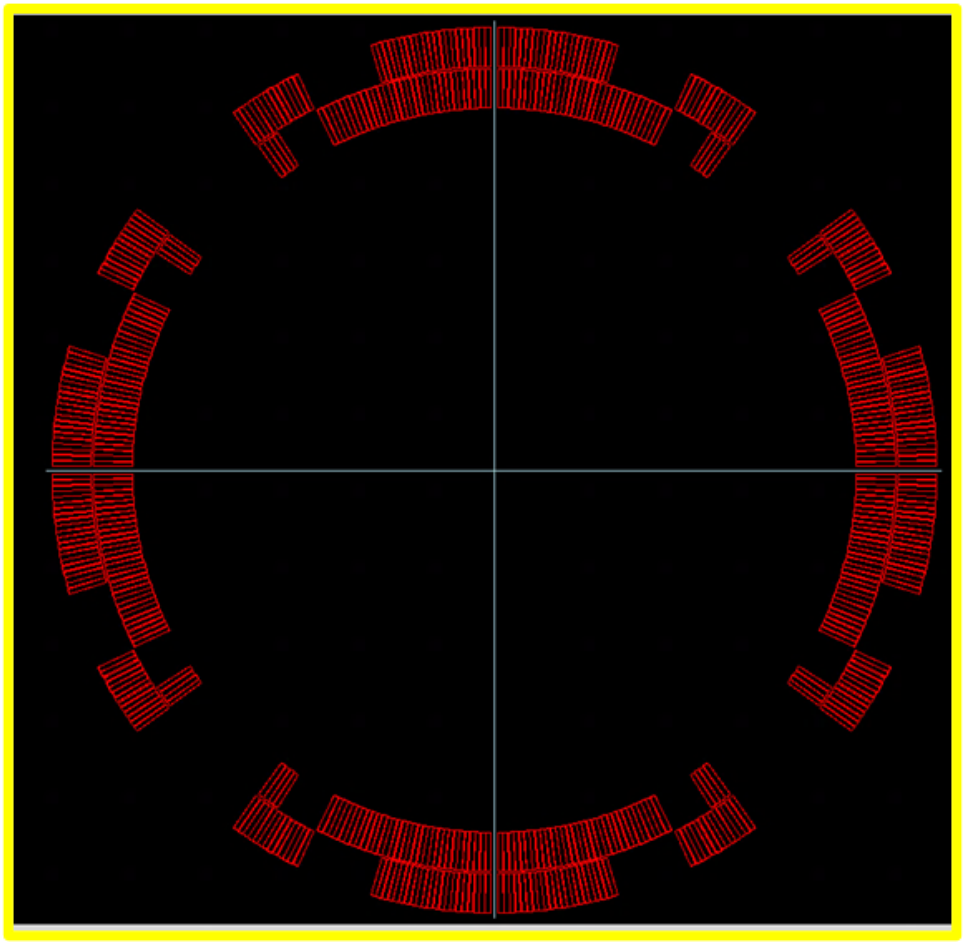
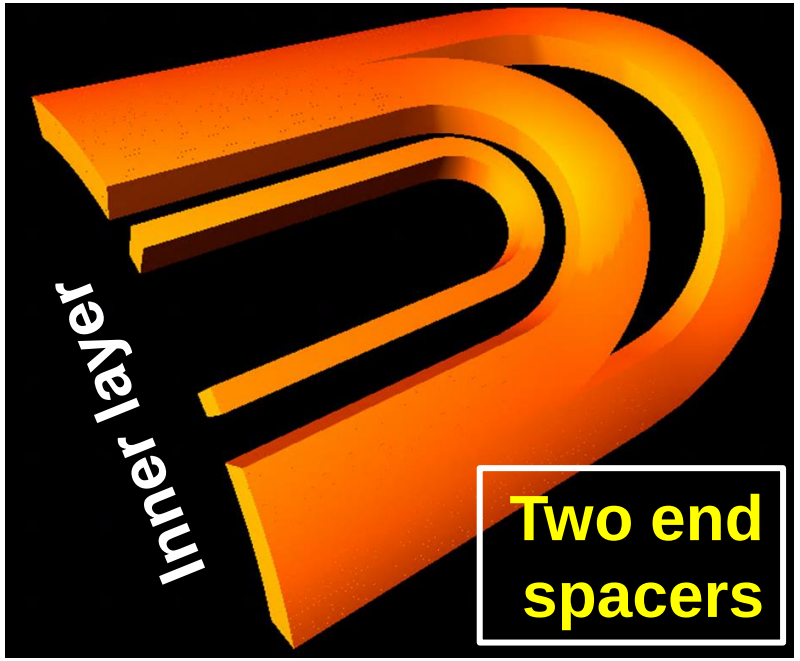
February 6, 2024

Return End Coil Design

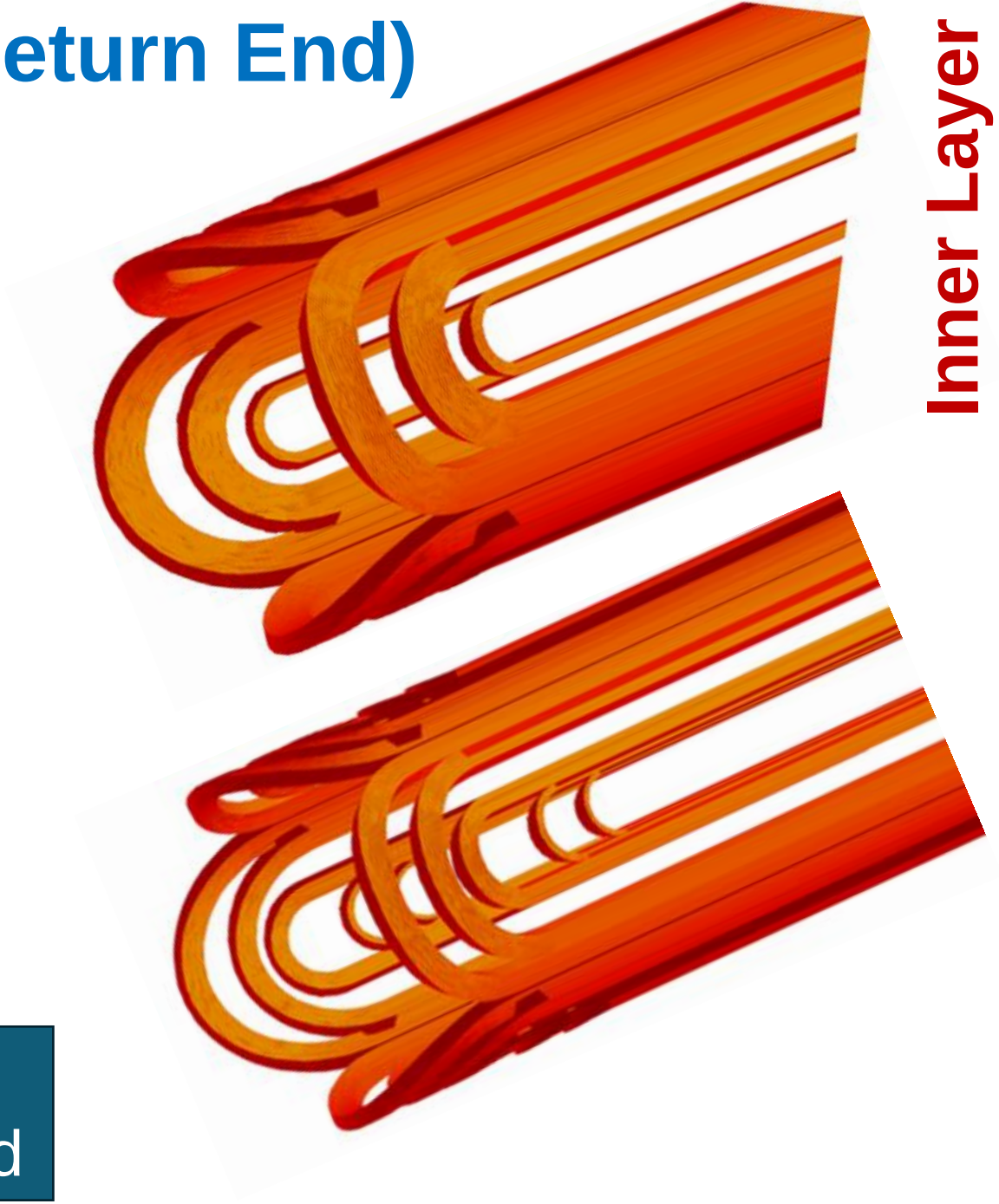


Cutout at the Vertical Plane at the Return End (symmetric)



Symmetric octant of the X-section

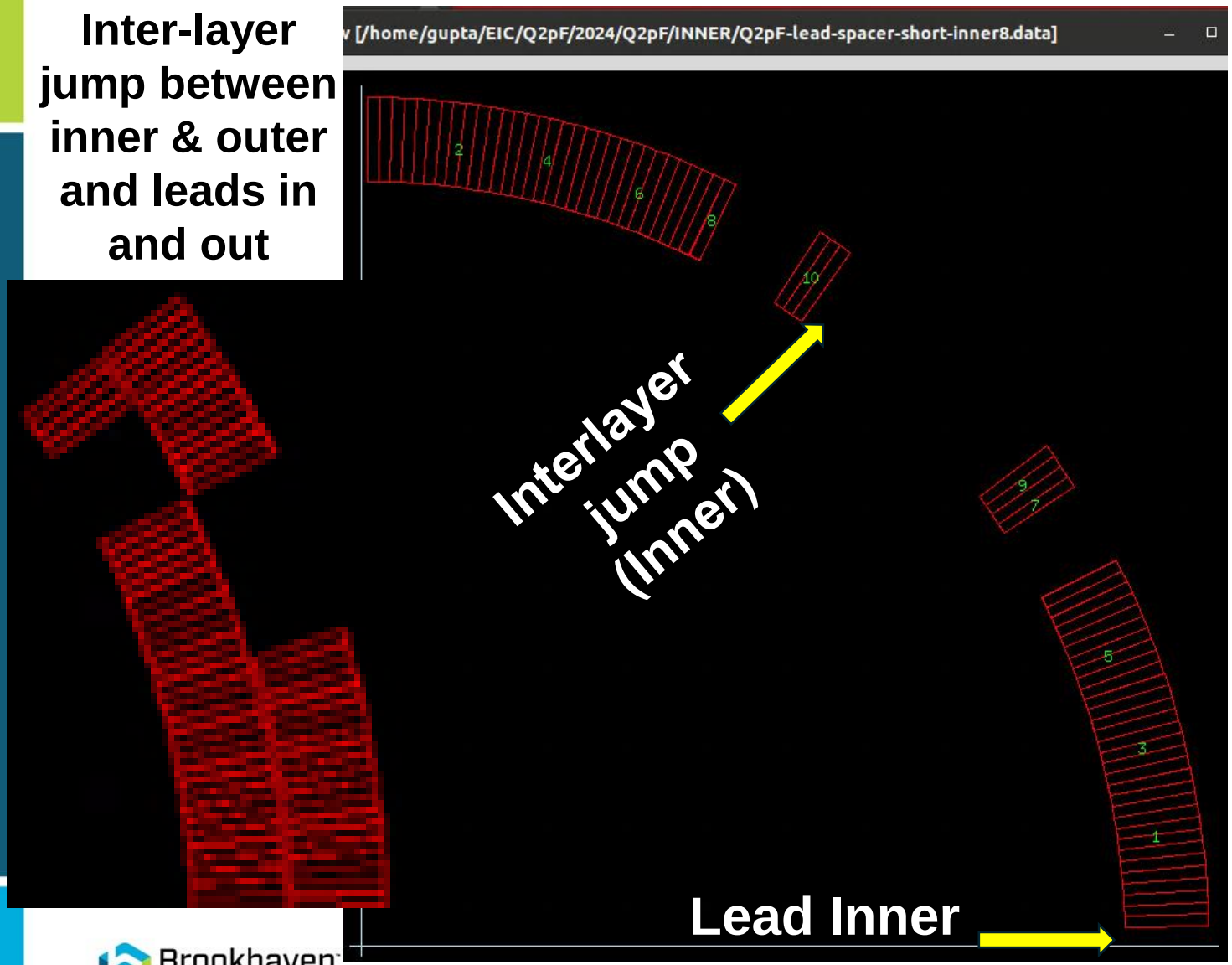
Inner and Outer Layers (Return End)

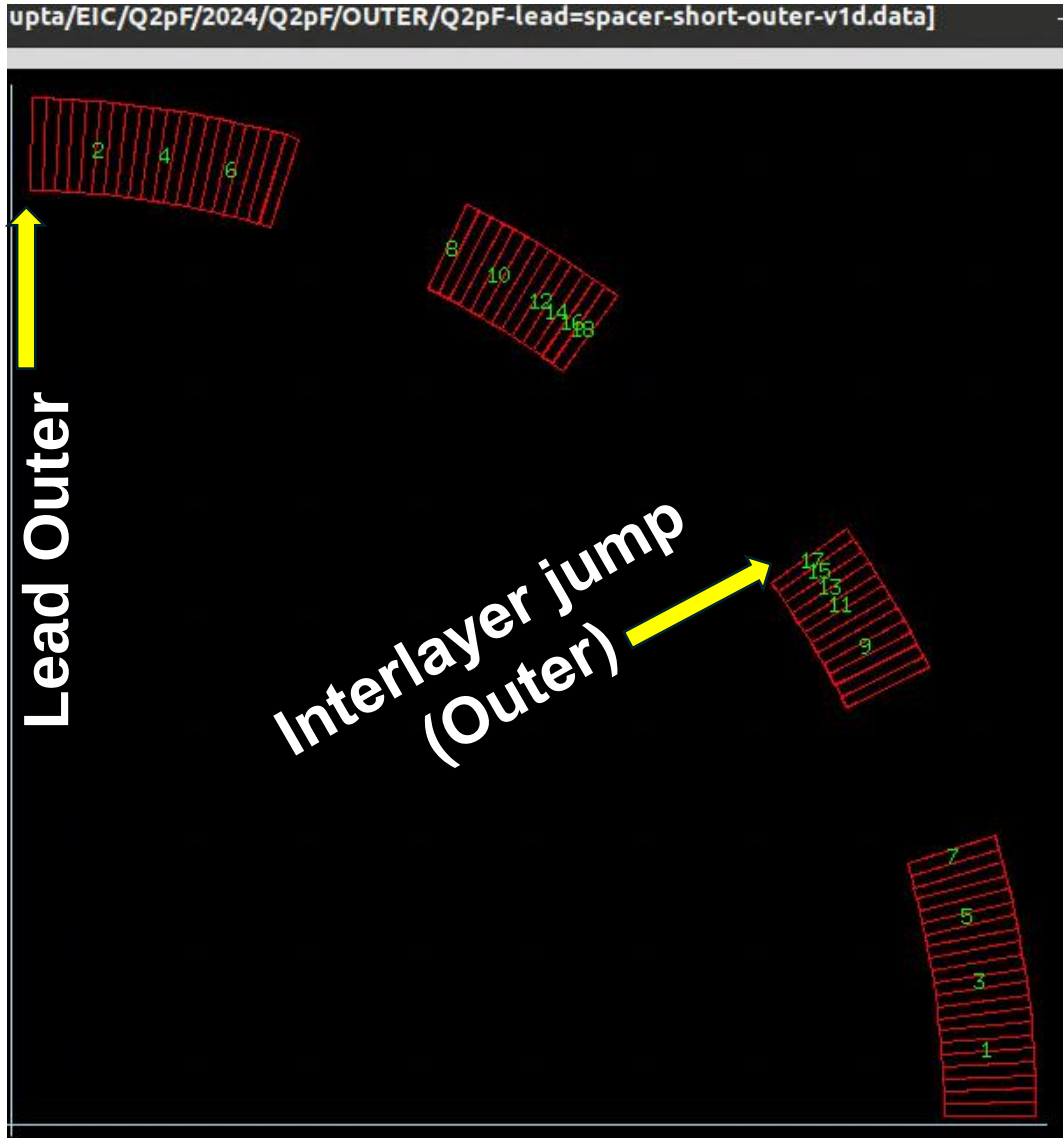


File for single turn winding test transmitted

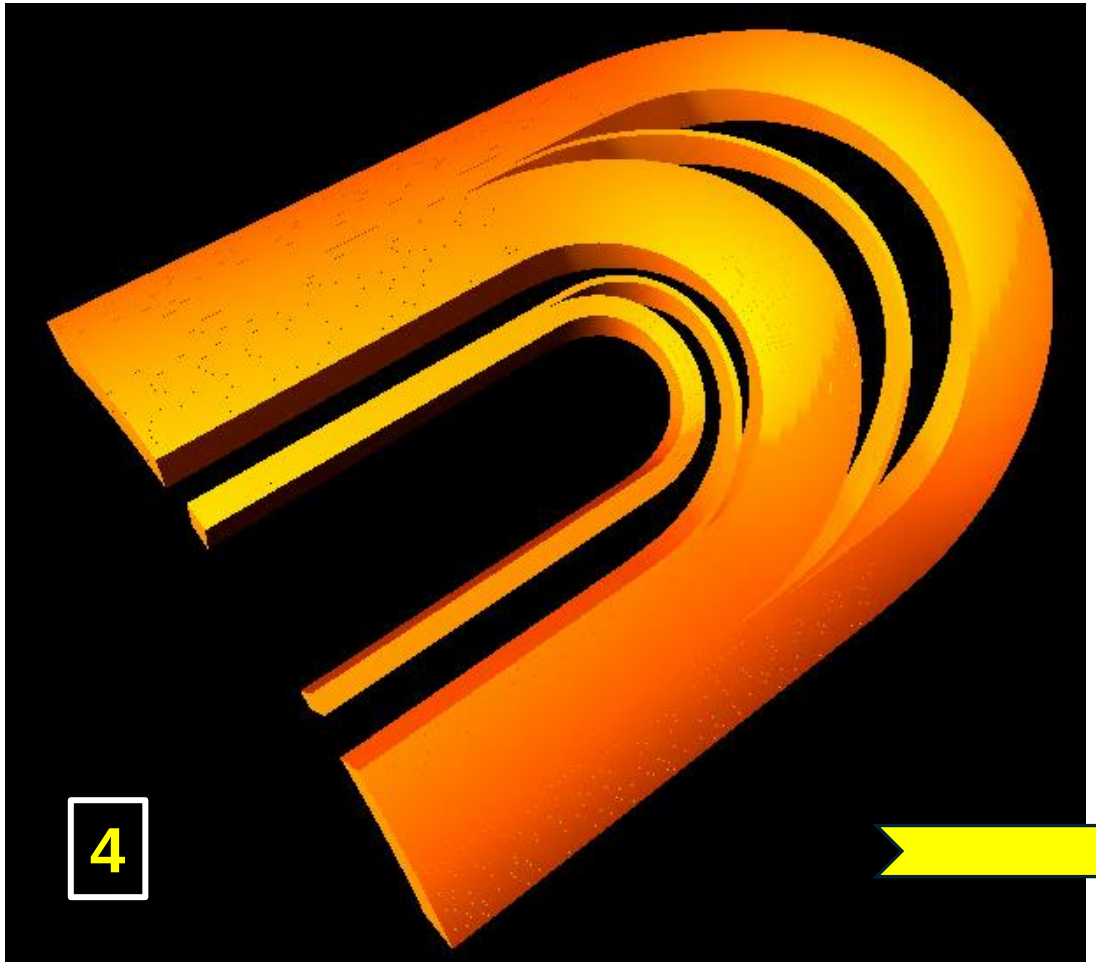
Lead End Design of a 2-layer Coil

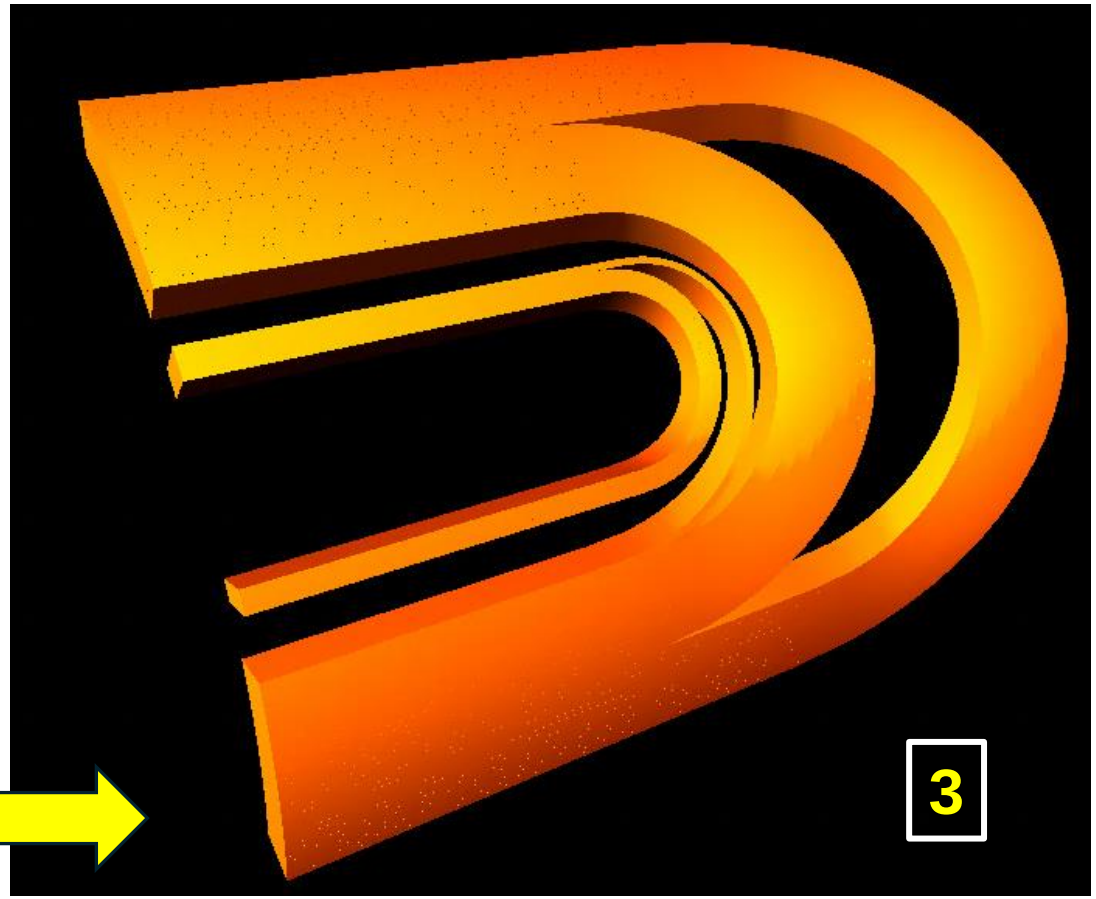
Inter-layer jump between inner & outer and leads in and out

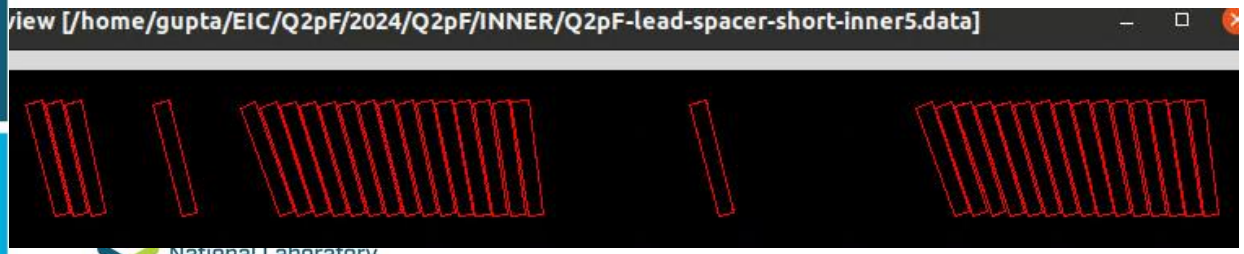


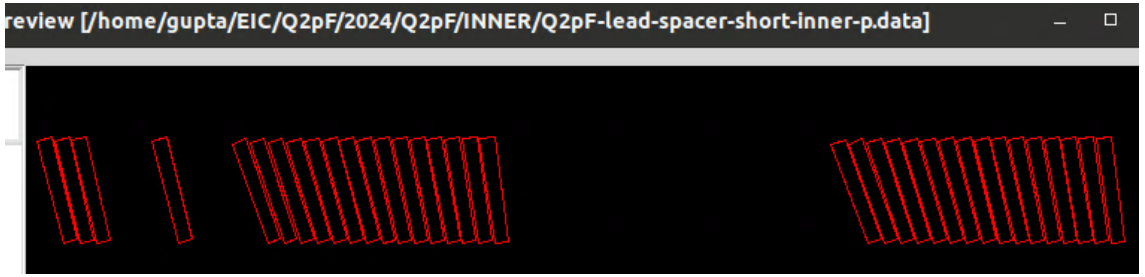


Lead End Inner Layer (reducing the number of spacer)

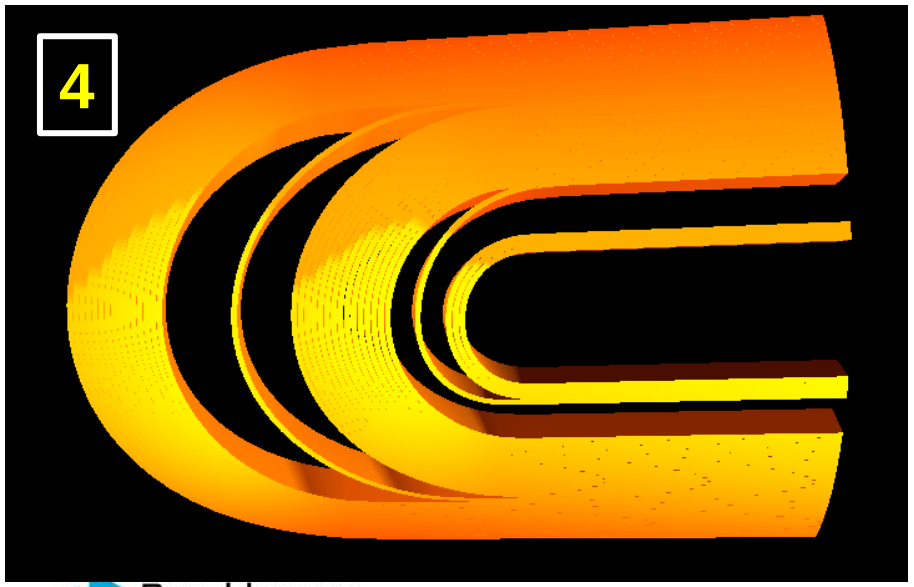


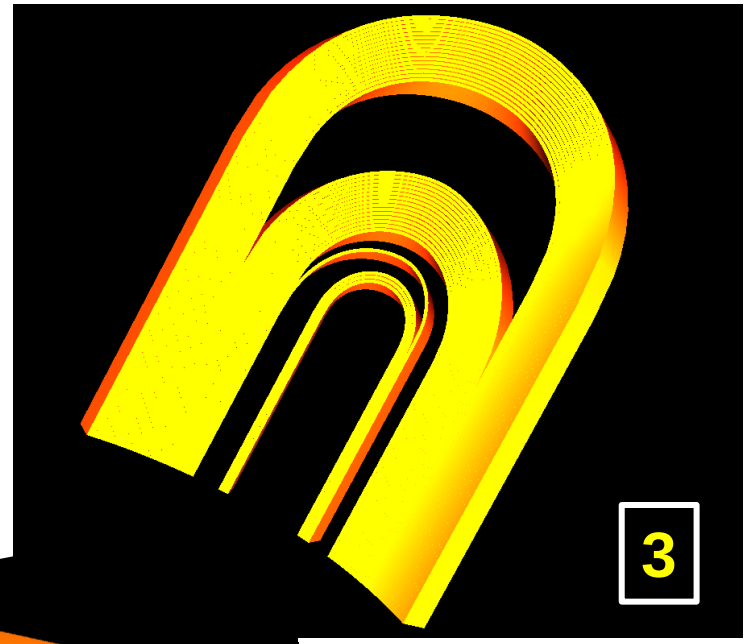




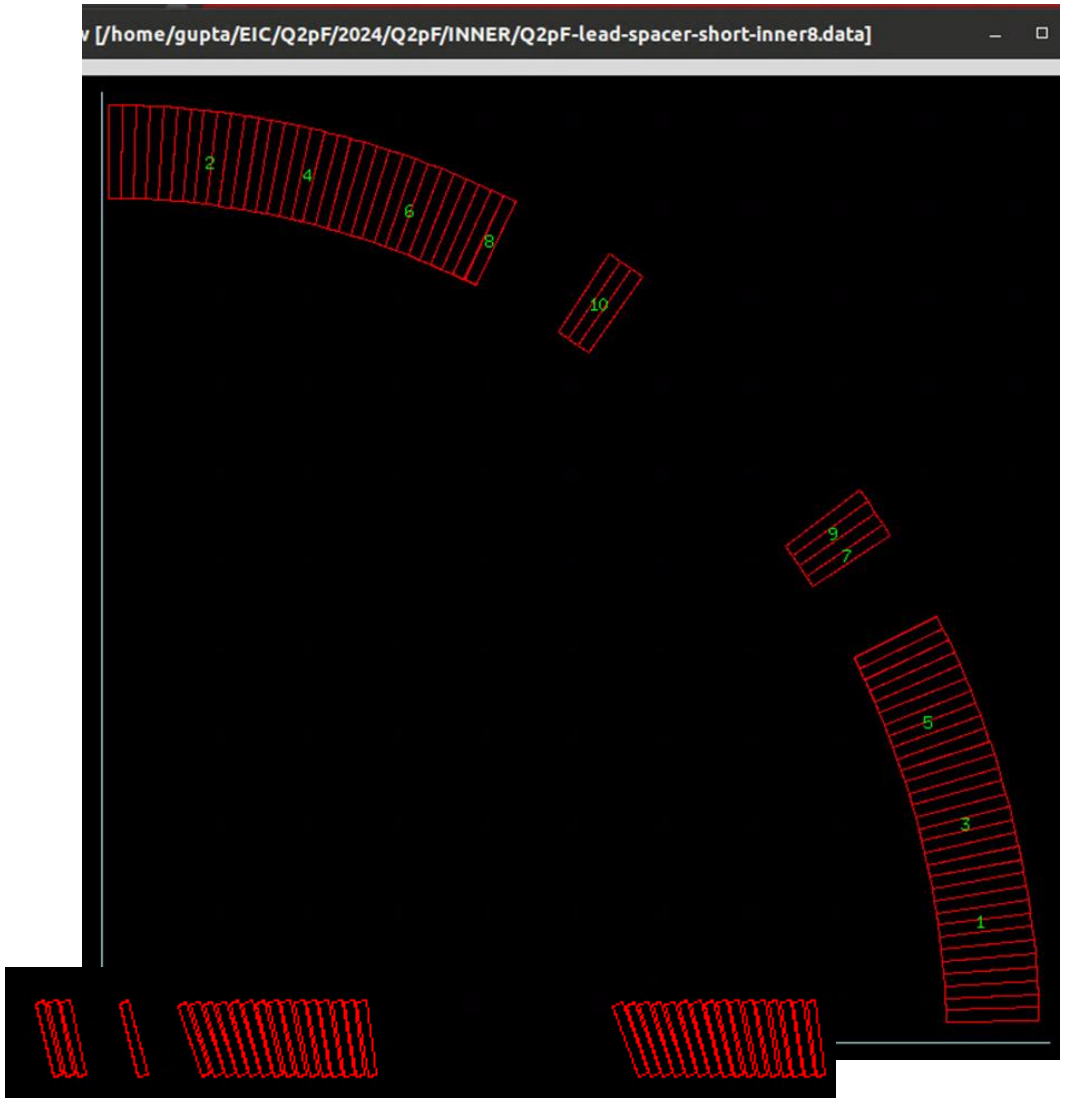


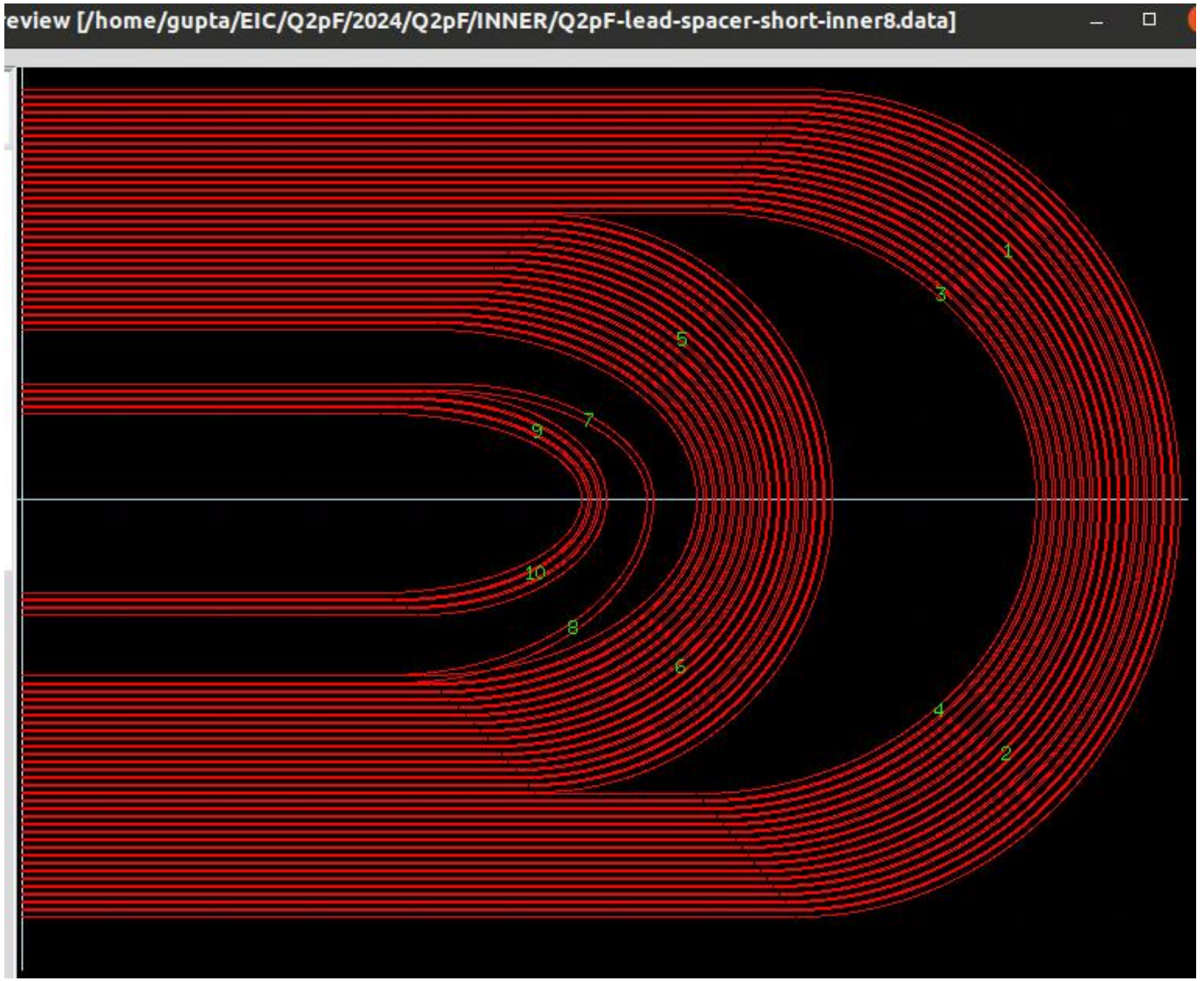
Lead End Inner Layer (reducing the number of spacer)



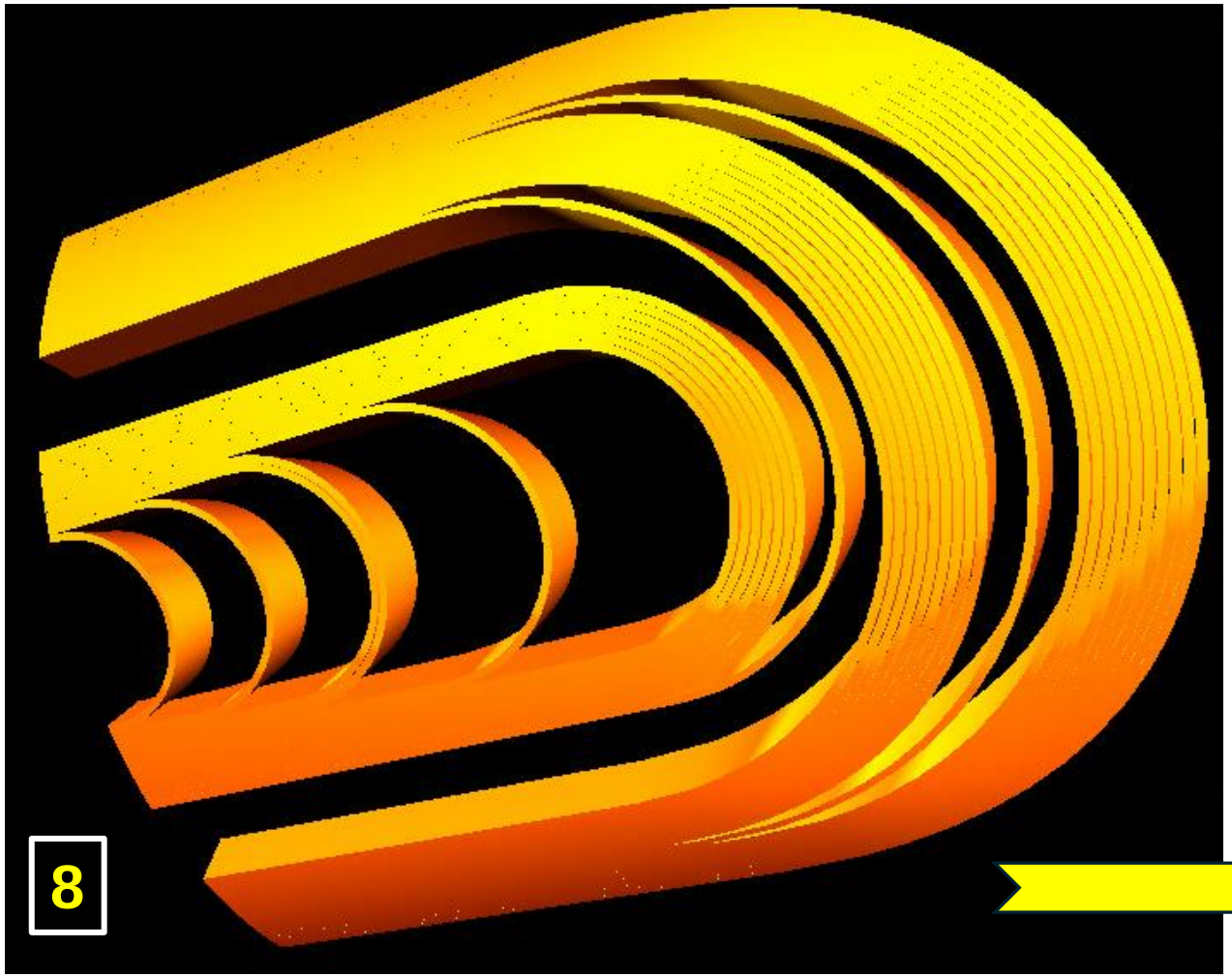


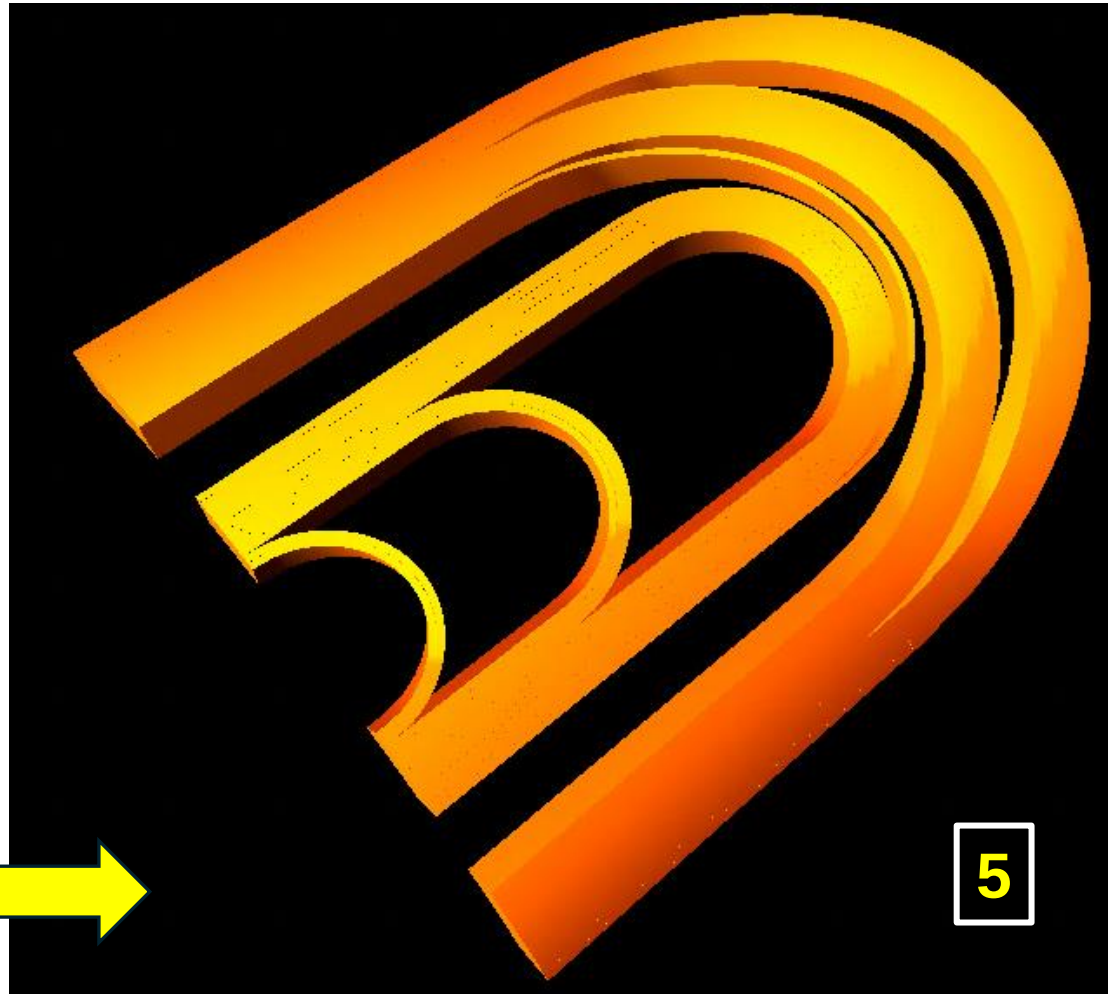
Lead End Inner Layer (initial design)

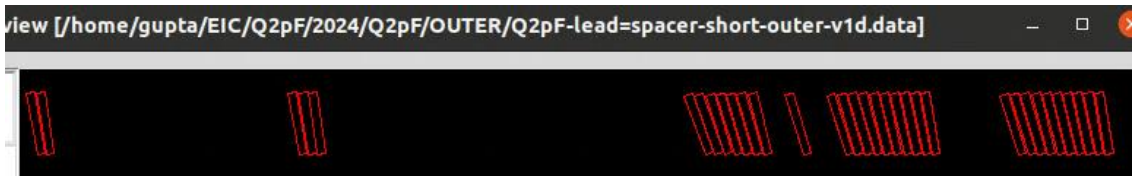




Lead End Outer Layer (reducing the number of spacer)



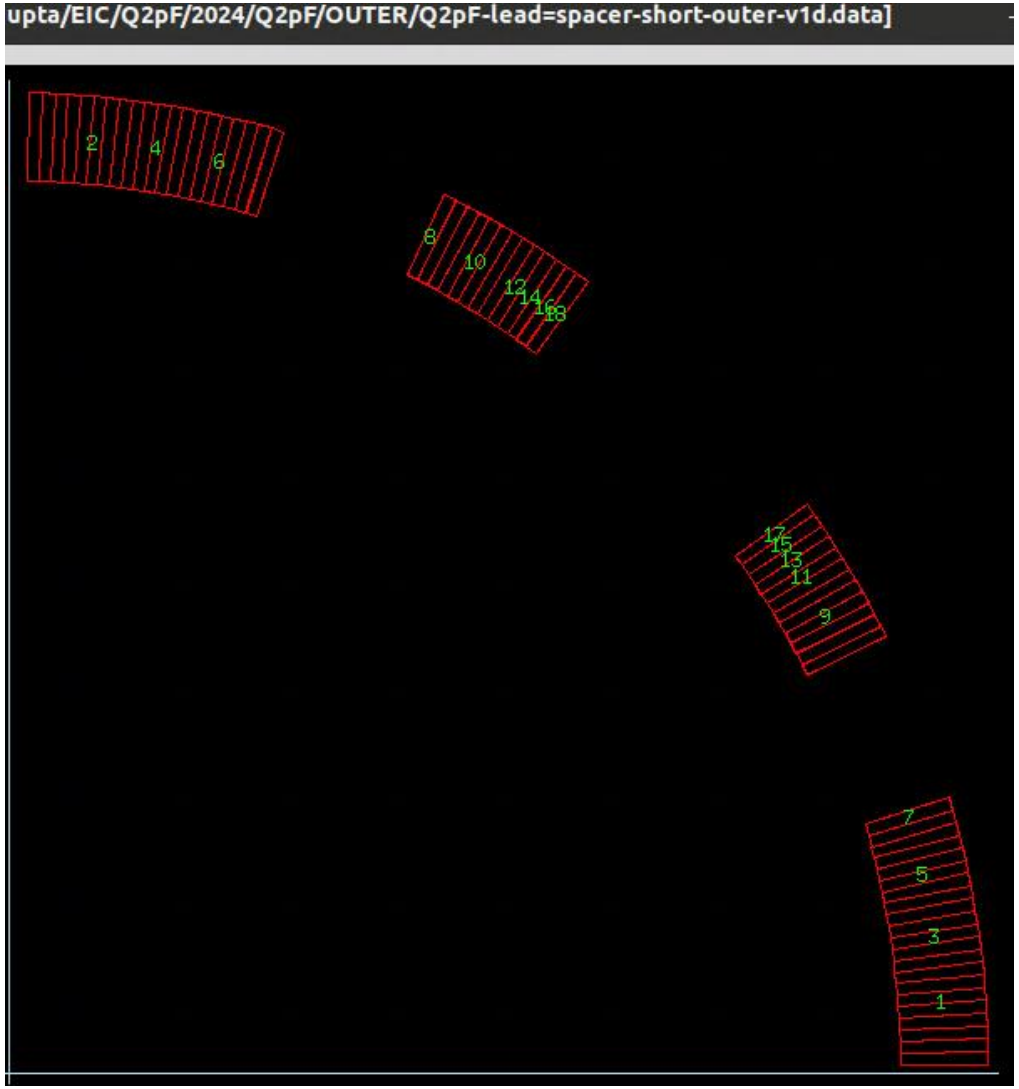


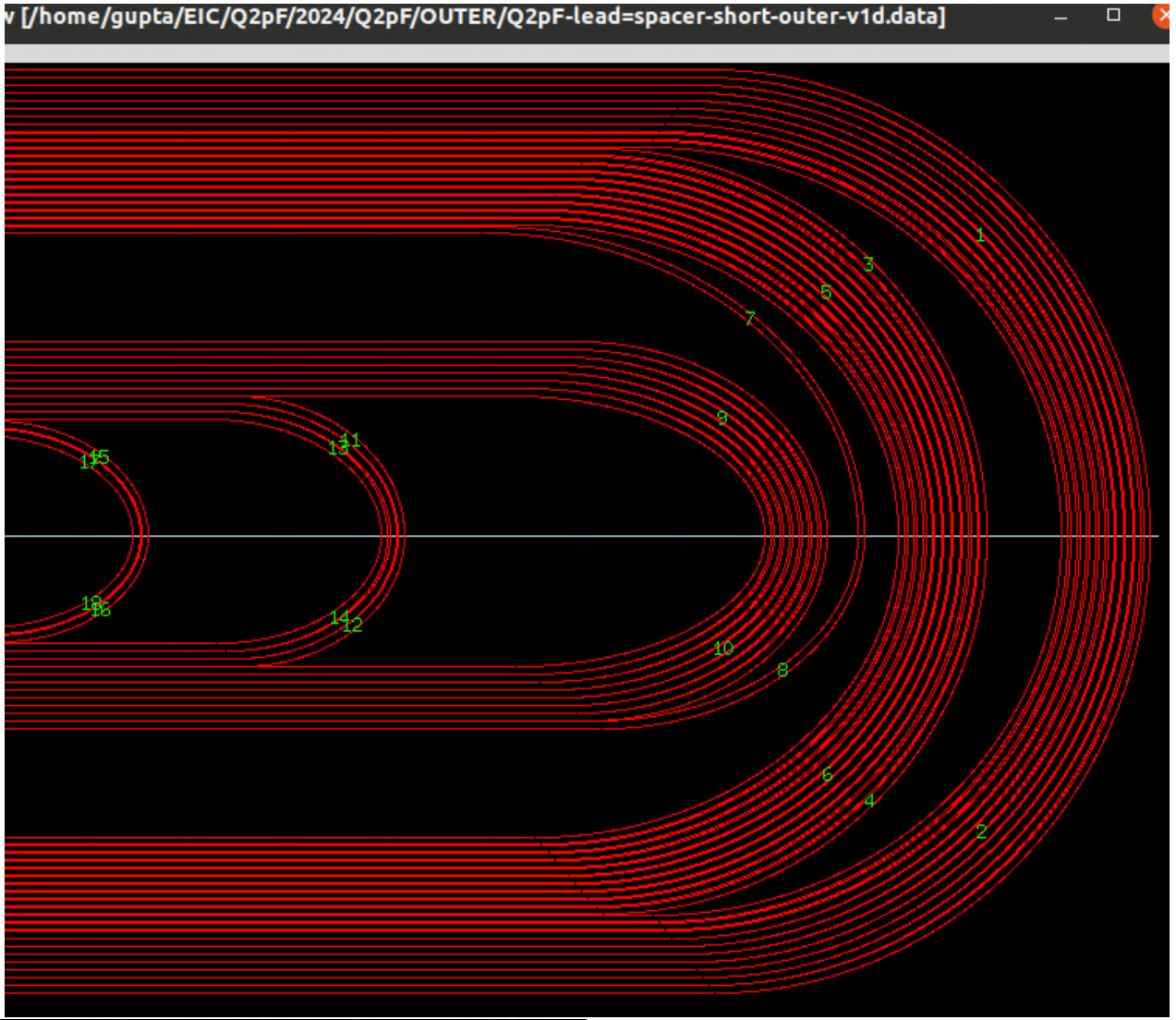


Lead End Outer Layer (reducing the number of spacer)

As compared to the four in the return end

Lead End Outer Layer (initial design)





Next Steps Planned

- Check the ROXIE models of the return and lead ends (run through engineering) to see what iterations needs to be made in the initial design
- Check the sense of windings (Clock-wise or counter-clock-wise) for inner and outer layers (easy fix in ROXIE via a simple switch)
- Complete the whole coil geometry in a magnet model with all details (inter layer jump, leads, connections between different coils, etc.)
- Iterate for field harmonics and peak fields, as necessary
- Complete first round by the end of this month, even if it not final
- Next (or in parallel): make OPERA3-d model