

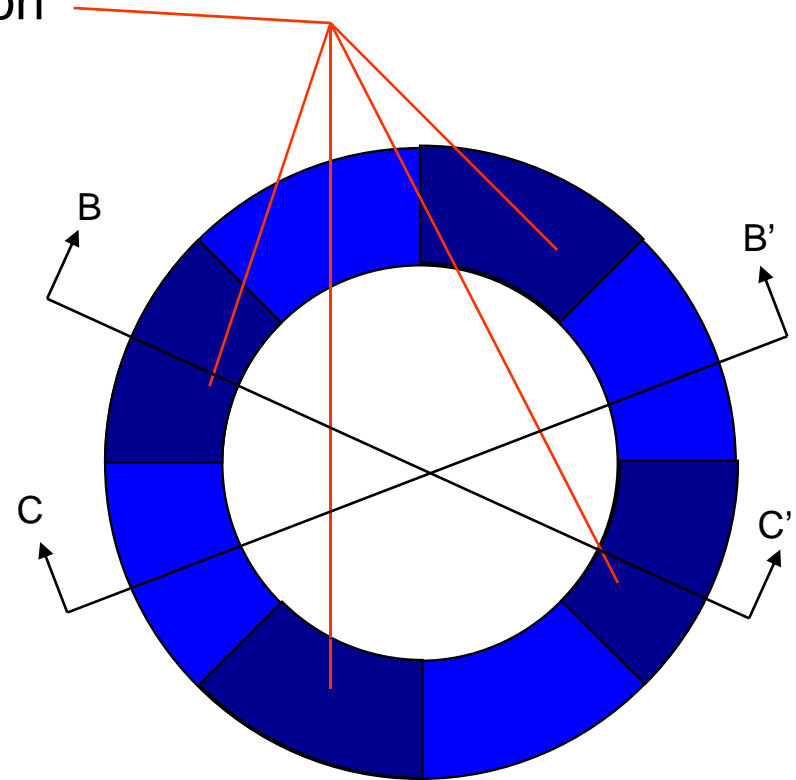
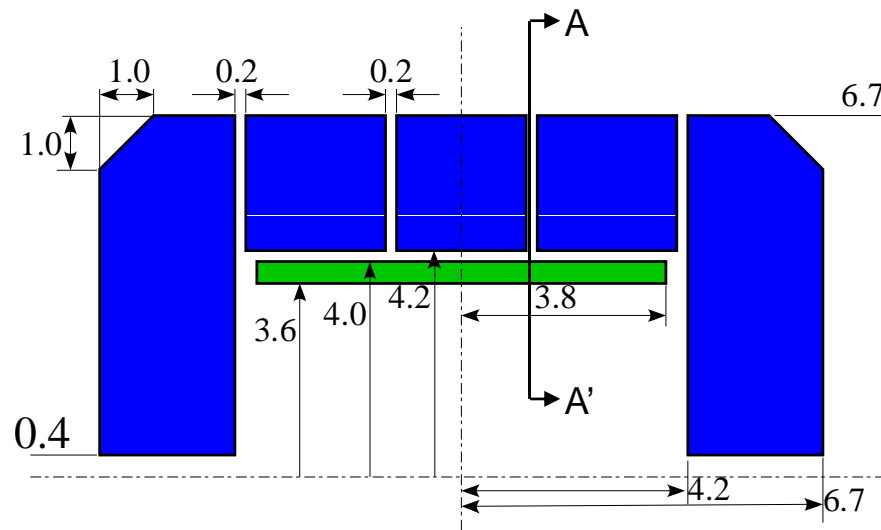
3D calculation for stray field with gaps

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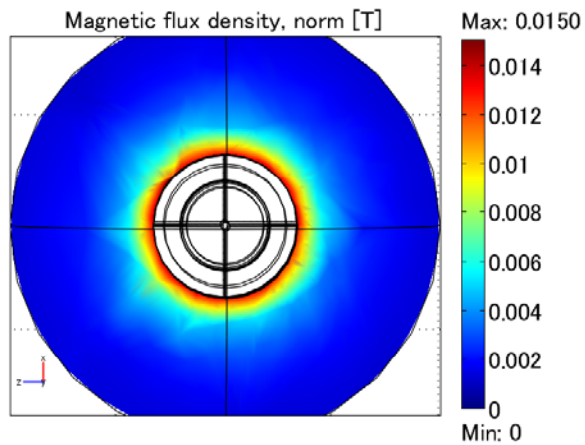
Simple models

- 3 simplified models (3.5 T central field)
 - No gap
 - 20 cm gaps
 - 20 cm gaps partially filled with iron

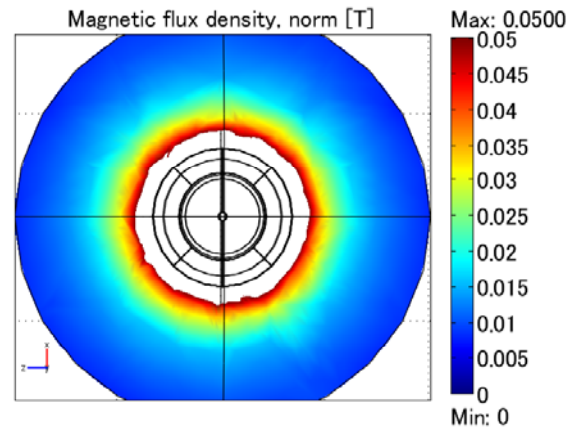


A - A' plane

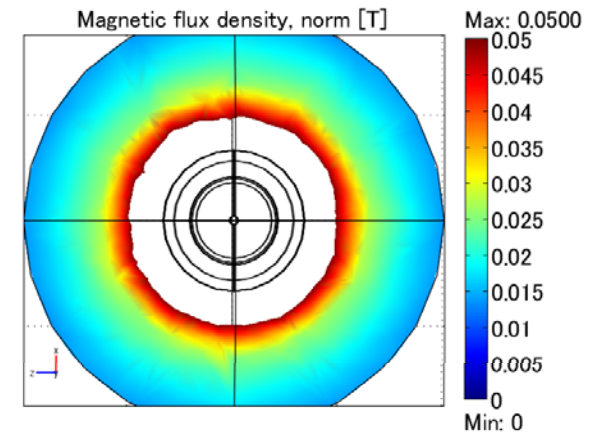
40 m bounding sphere
←→



No gap

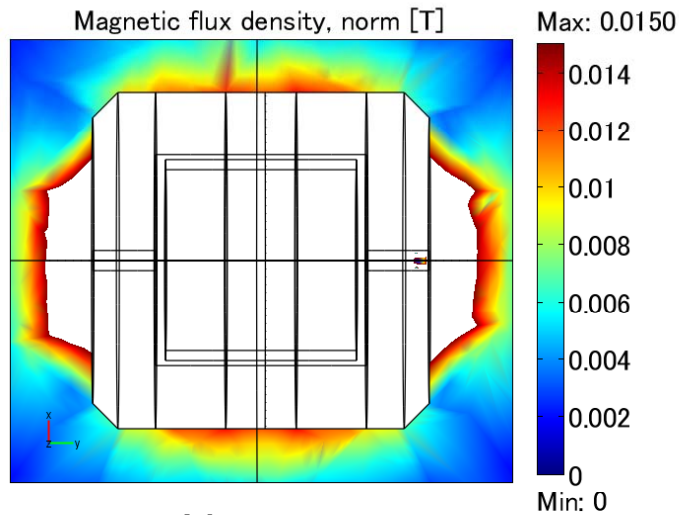


Gaps partially filled

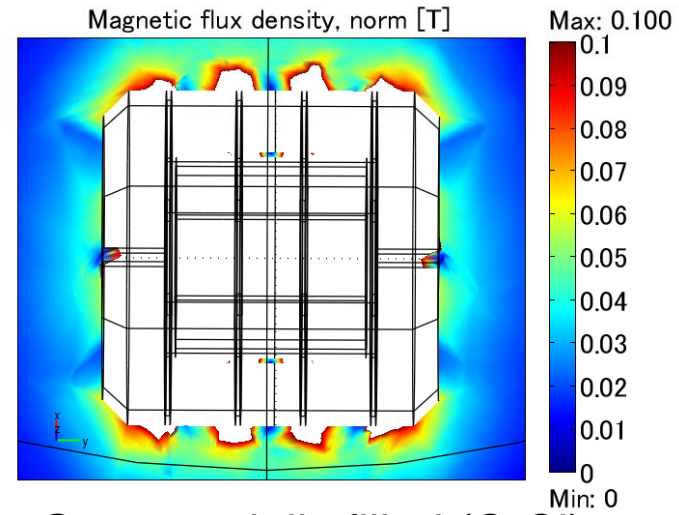


Full 20cm gaps

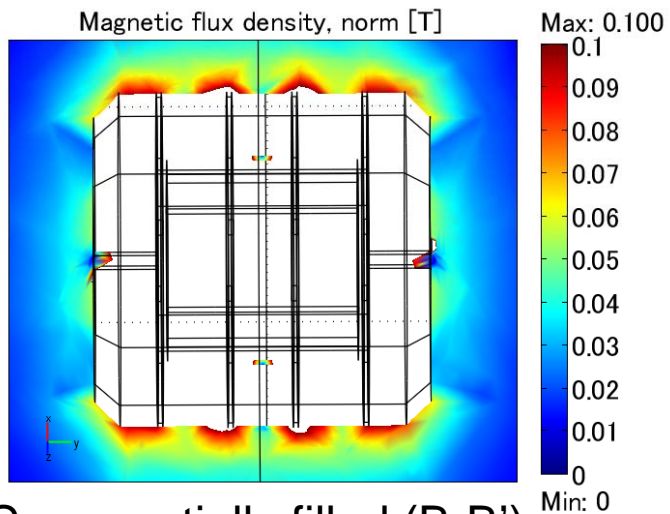
B – B' and C – C' plane



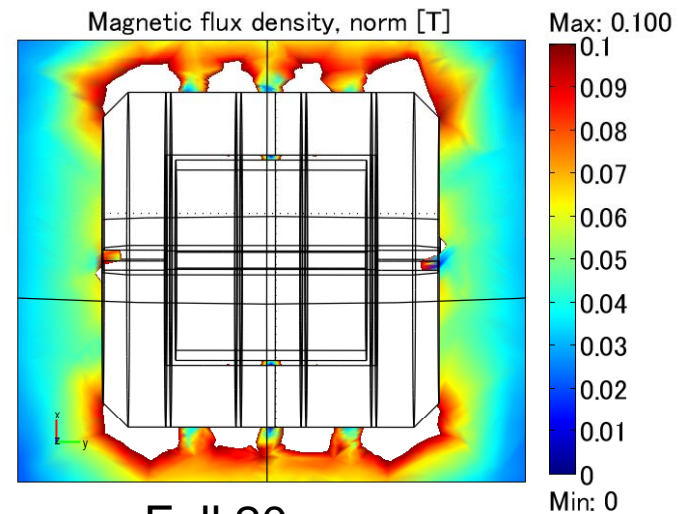
No gap



Gaps partially filled (C-C')

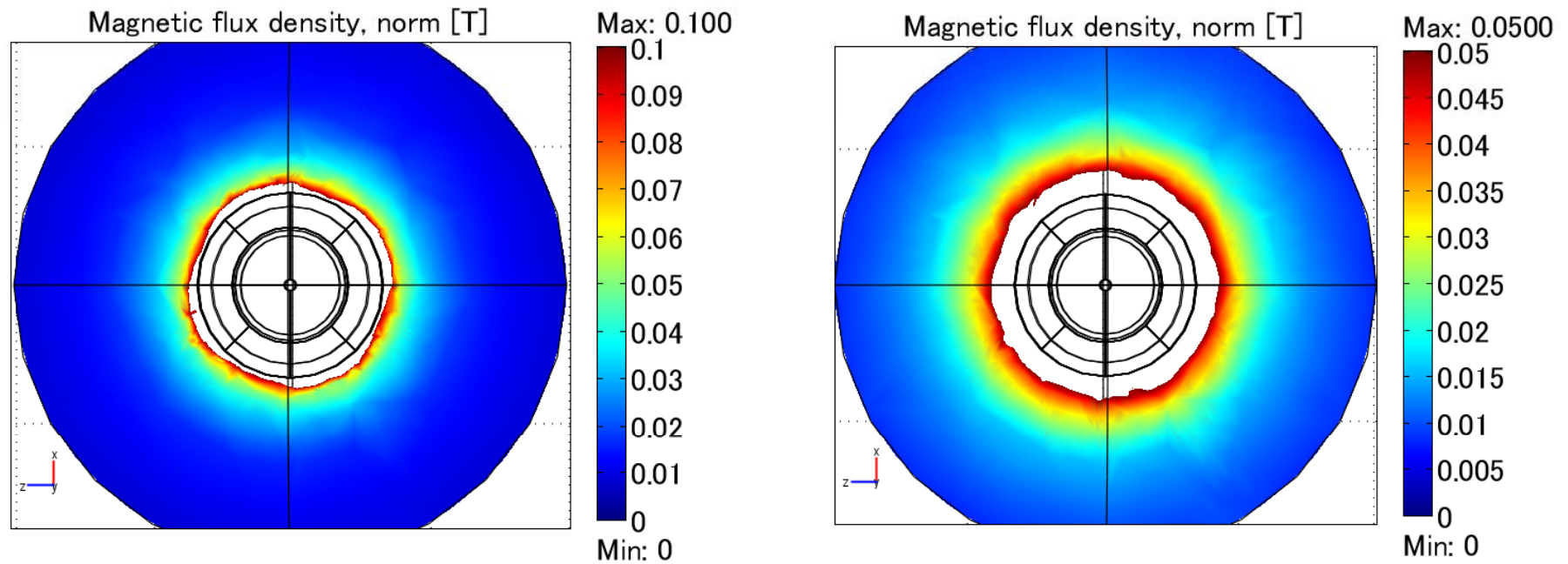


Gaps partially filled (B-B')



Full 20cm gaps

ϕ dependence



Gaps partially filled

Conclusion

- Gaps partially filled with iron with radial grooves reduce the stray field substantially
- In the partially filled model, ϕ dependence can be seen only near the outer surface of the yoke