

# Progress on Accommodating Large Cutout in B1pF Inner Yoke Geometry

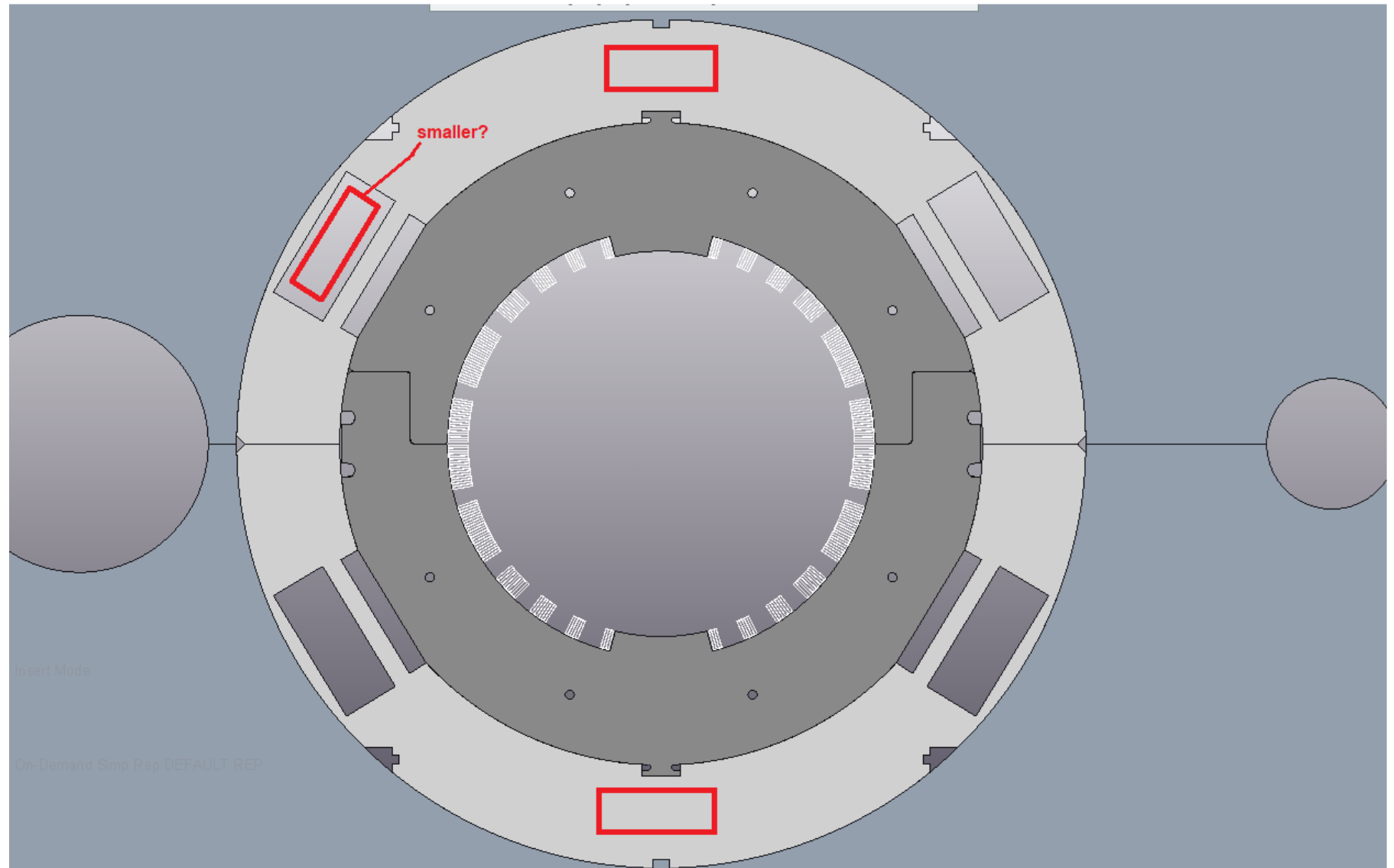
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@BrookhavenLab

# Revised Request (cutout at 6 places)

**Cutout at pole is expected to make a significantly negative impact on saturation**



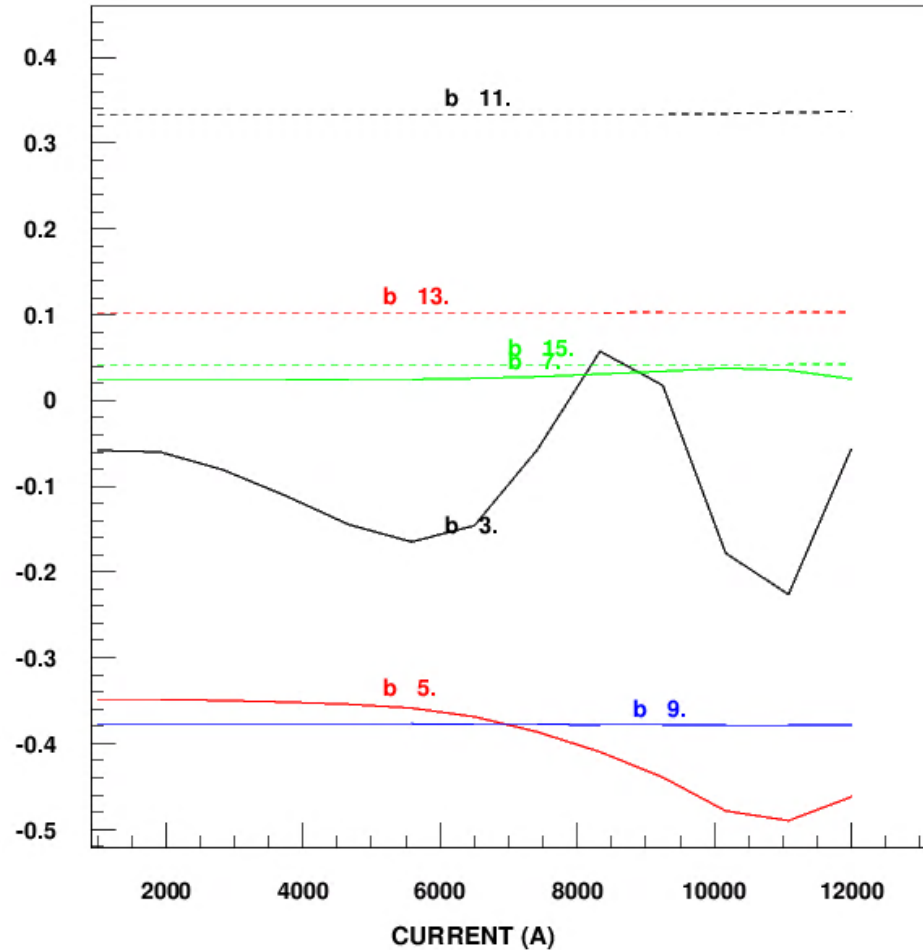
# Impact of Cutout on Iron Saturation

B1pF Yoke inner yoke od 26

23/02/14 11:44

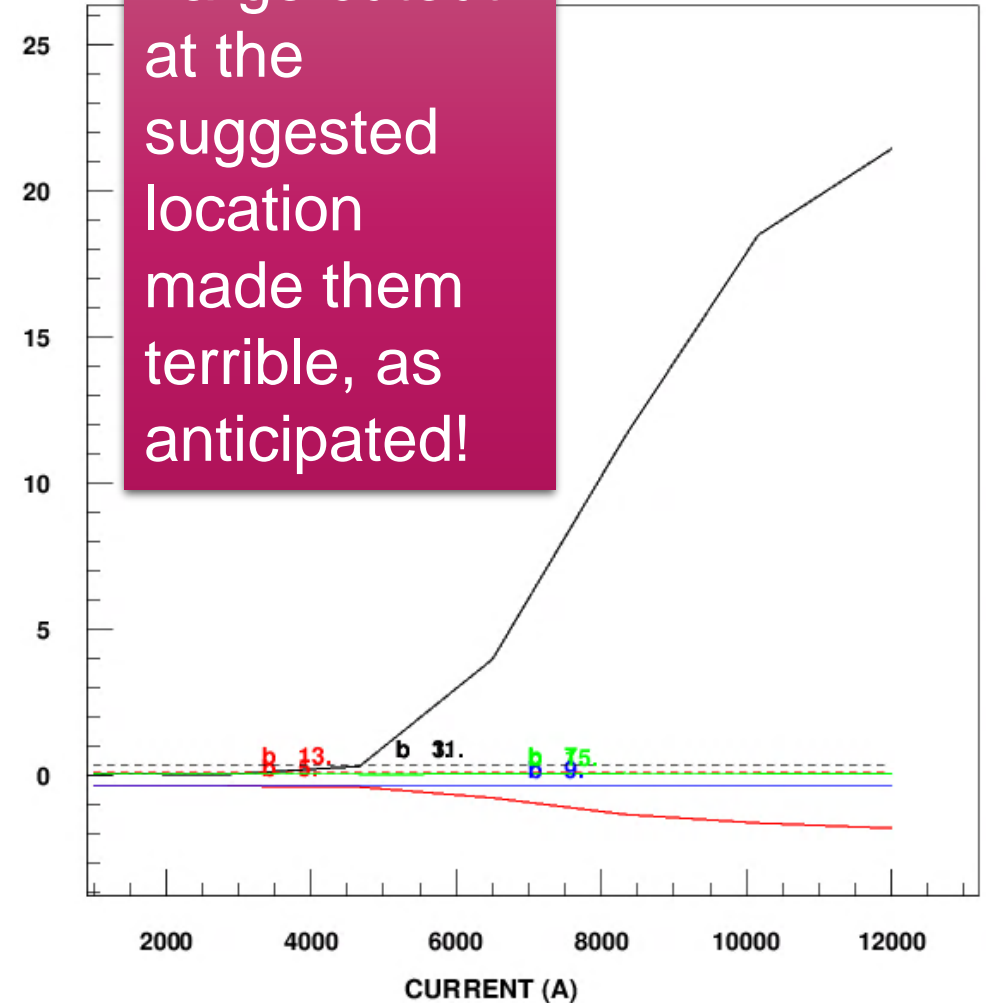
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All harmonics were low in the earlier design - (<1/2 unit) in the entire range of operation



Large cutout at the suggested location made them terrible, as anticipated!

1. 2. 3. 4. 5. 6. 7.



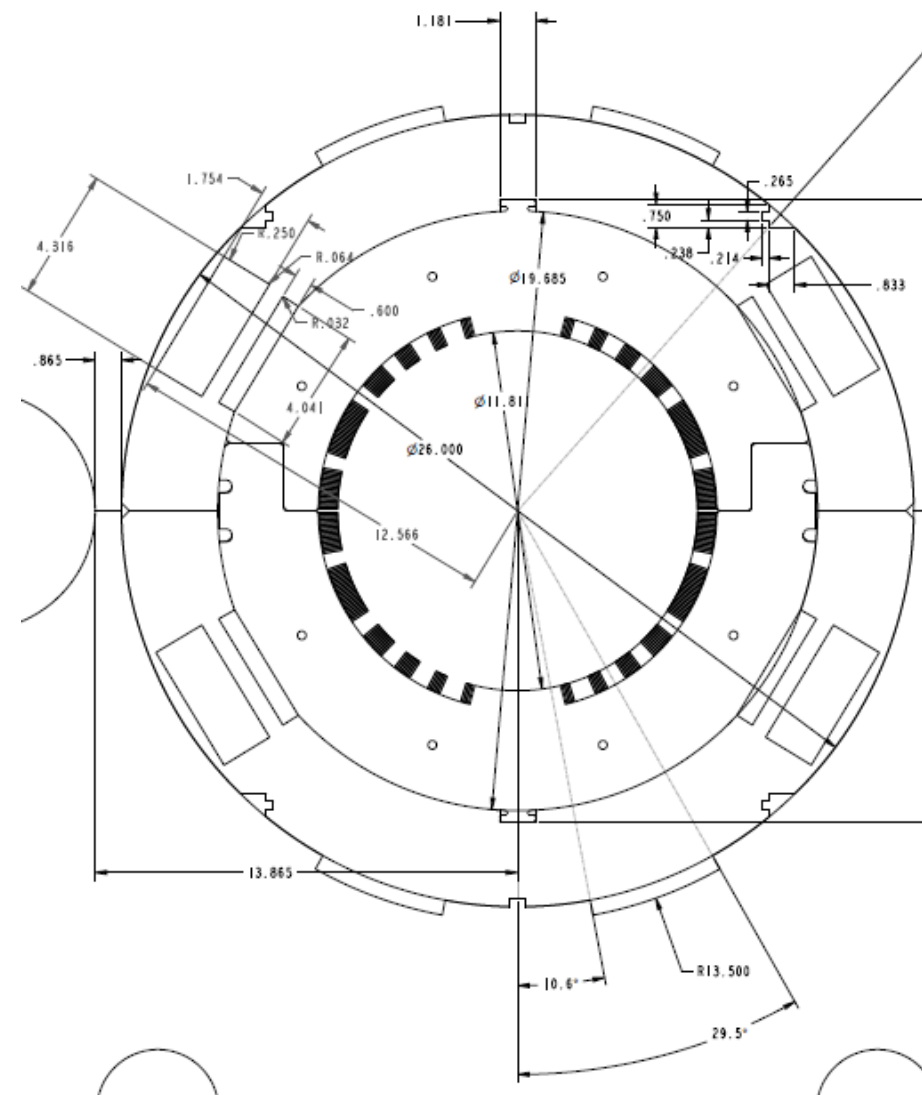
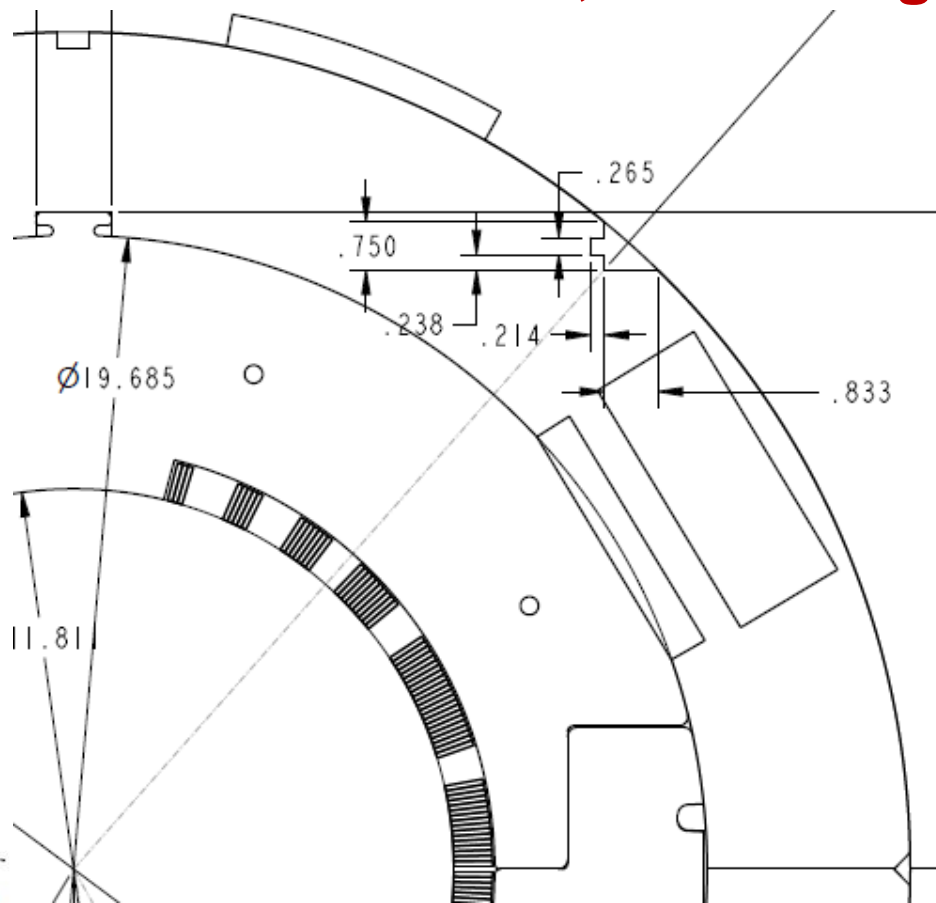


**Progress on finding a solution which satisfies the demanding requirements of both mechanical design (3d) and magnetic design (2d) within the limited available space.**

**Several approaches examined. Work not completed but results look promising.**

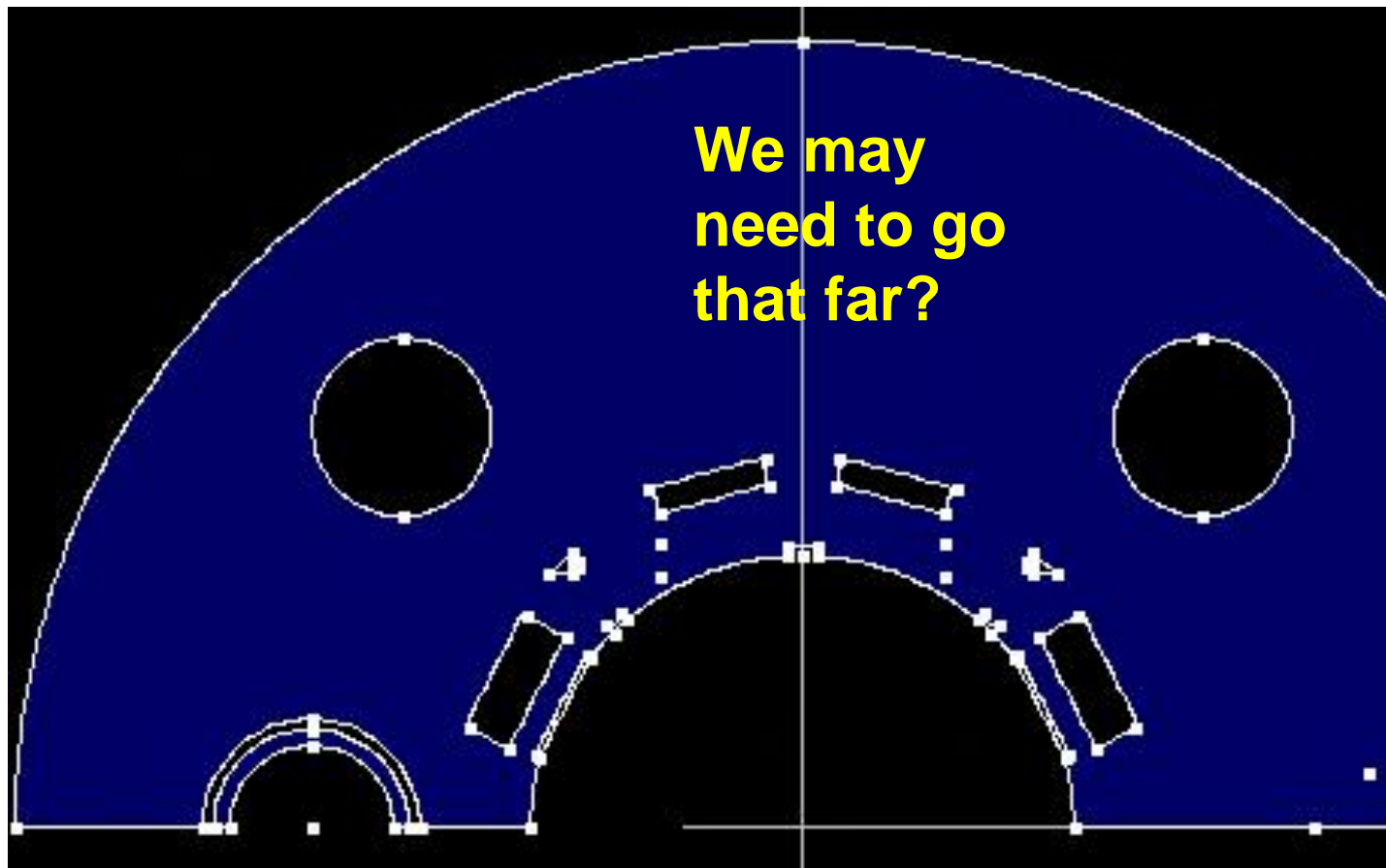
# Approach #1: (suggested by Chris Runyan)

- Magnet will go in 27" Dewar. Use 1/2" space available since inner yoke od is 26".
- Must have cutout in the outer yoke.
- Must still deal with the saturation
- Width and location not ideal, but manageable?

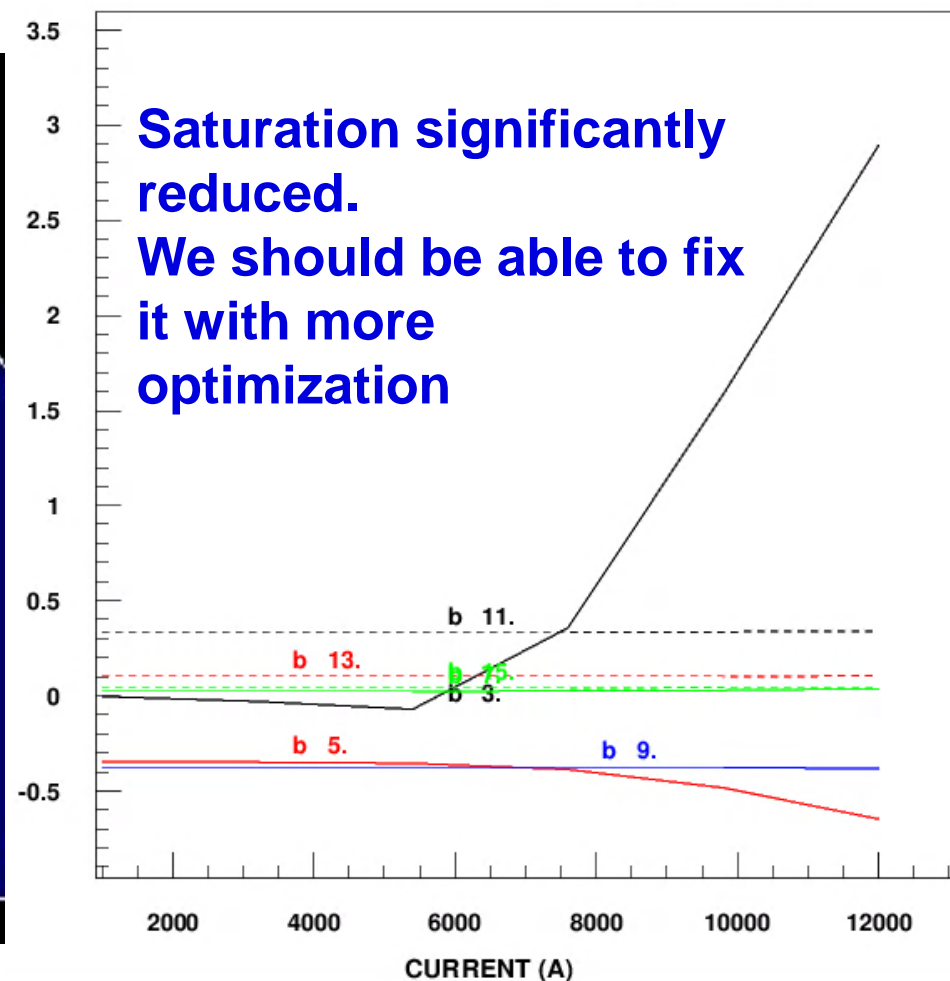


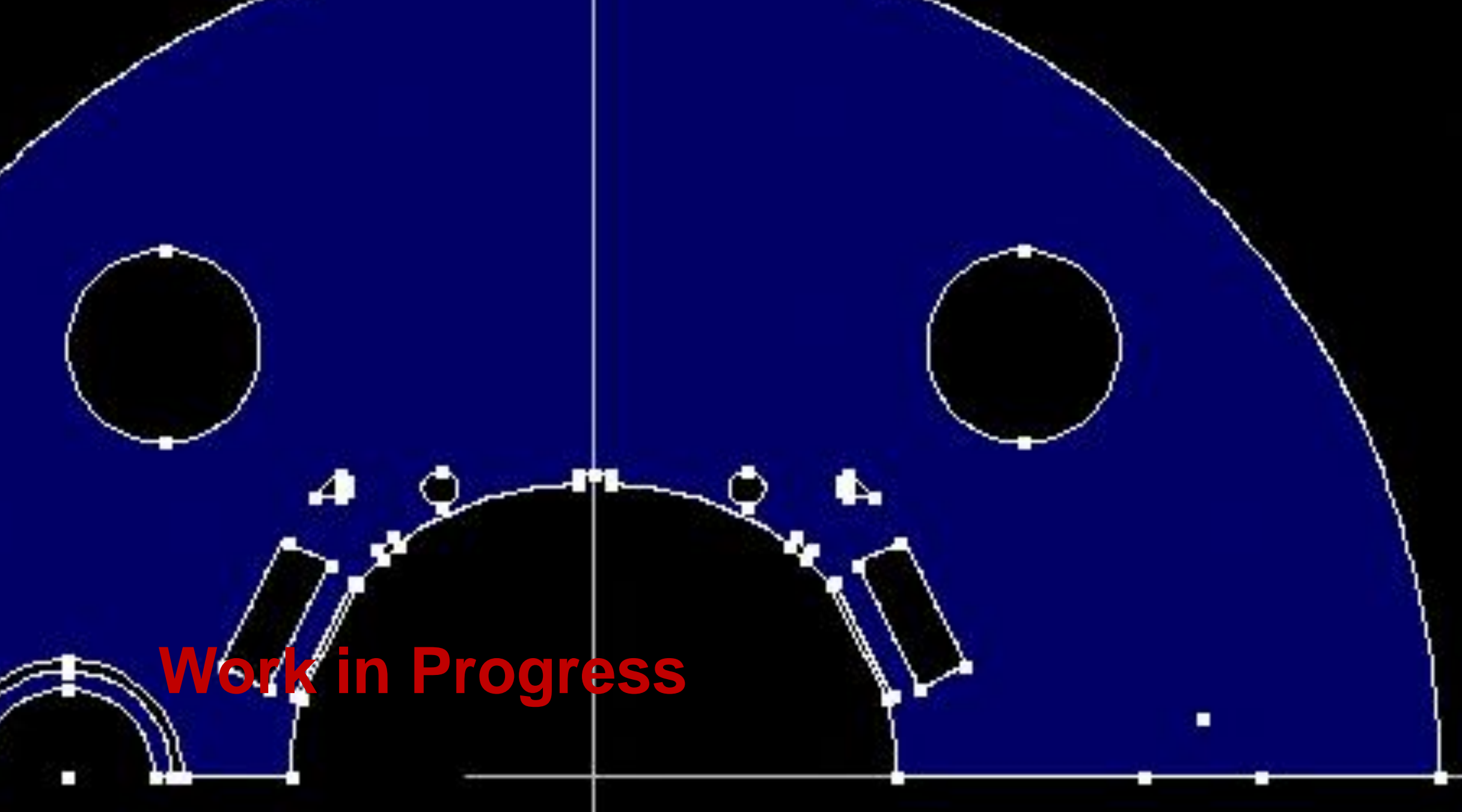
# Modified Approach #1: Work in Progress

- Can we bring cutout brought closer to vertical plane ?
- Can 1/2" width be increased to 1"?



GRAPH NO: 1. 2. 3. 4. 5. 6. 7.





**Work in Progress**