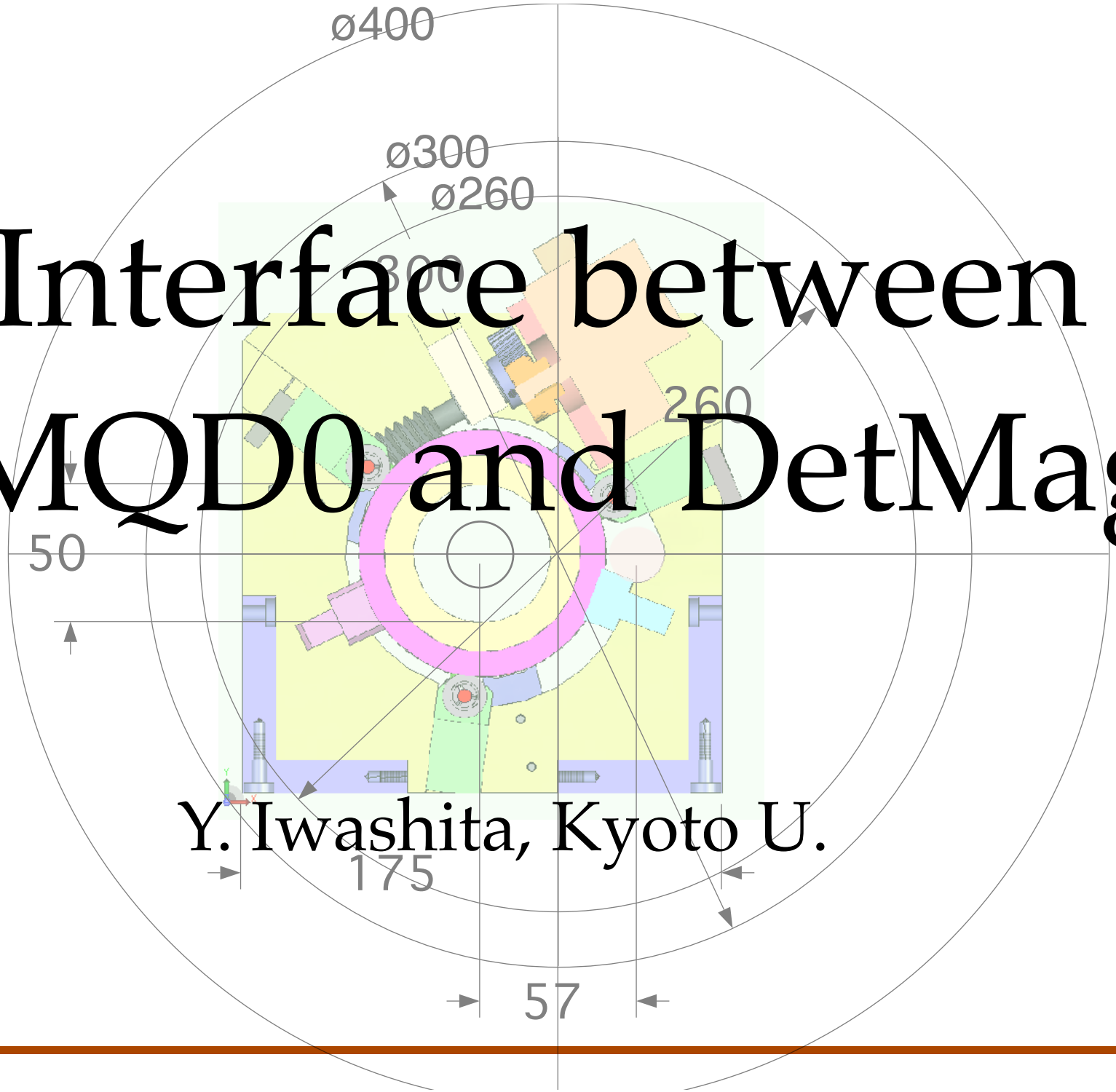
Interface between PMQD0 and DetMag.



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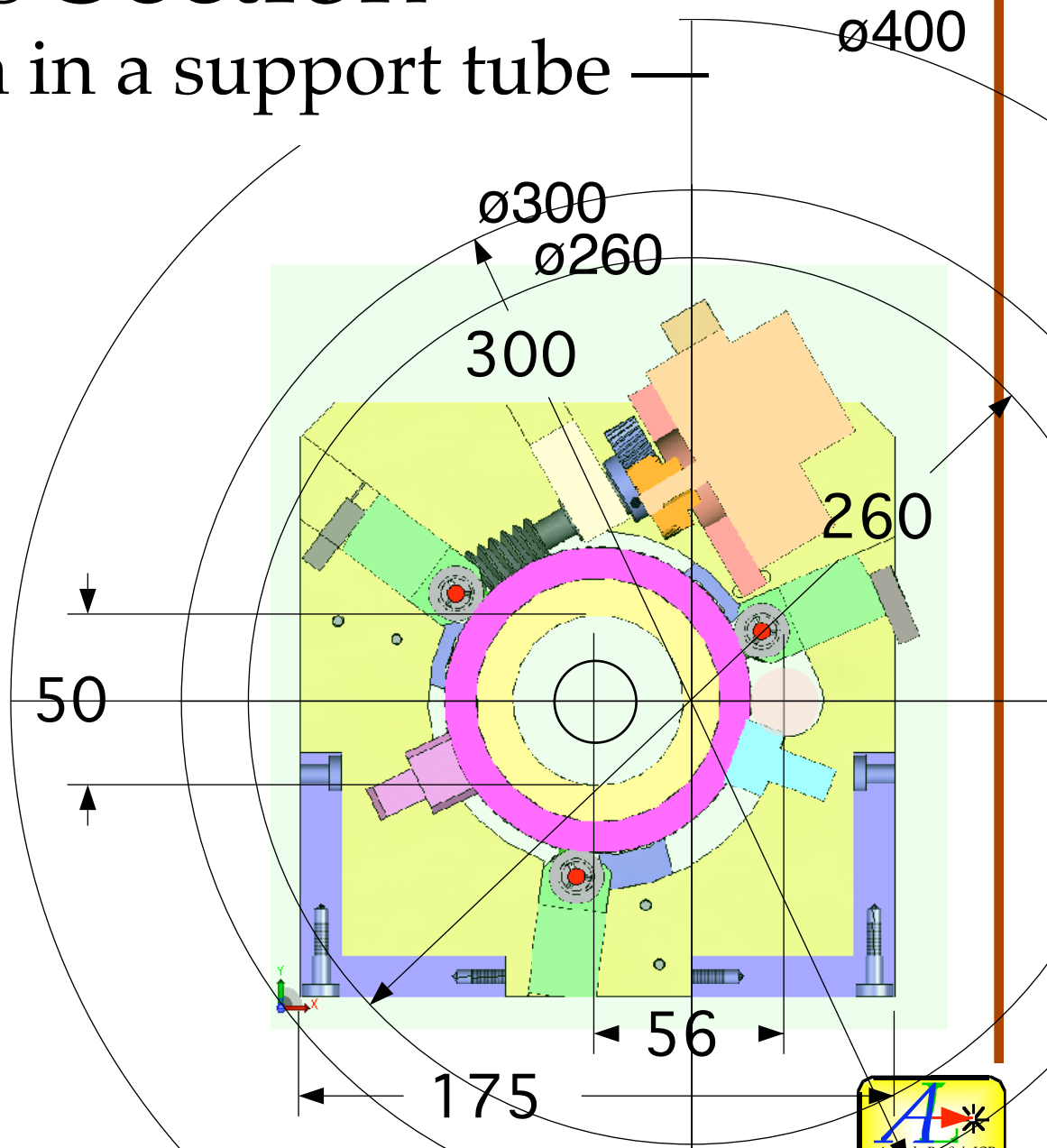
Cross Section

— ATF2 version in a support tube —

- Separation:
  - 14mr x 4.0 = 56mm
  - 14mr x 4.5 = 64mm
  - 14mr x 5.0 = 70mm
- Corners may be cut.
- No magnetic mat'l.
- SS Motor.
- Mover to be installed
- How to support?



To be considered (1st)

- The first version (double ring structure):

  ☑ Soft magnet inside.

  ➡ Antisolenoid (whole region) is needed where Superconducting Mag. brings vibration fear. But may be small effect on beam.

  ➡ Large repulsive force ~200kN to be supported.

To be considered (2nd)

- The second version (five-ring-singlet):
  - ☑ No soft magnet.
  - ➡ Antisolenoid is still needed but partial. Vibration from Superconducting Mag. may be small effect on beam. (HTc coil?)
  - ➡ Magnetic force should be small.
    - Demagnetization resistance has to be checked.
    - Effect on beam of μ=1.05 has to be checked.
    - What about SD0?

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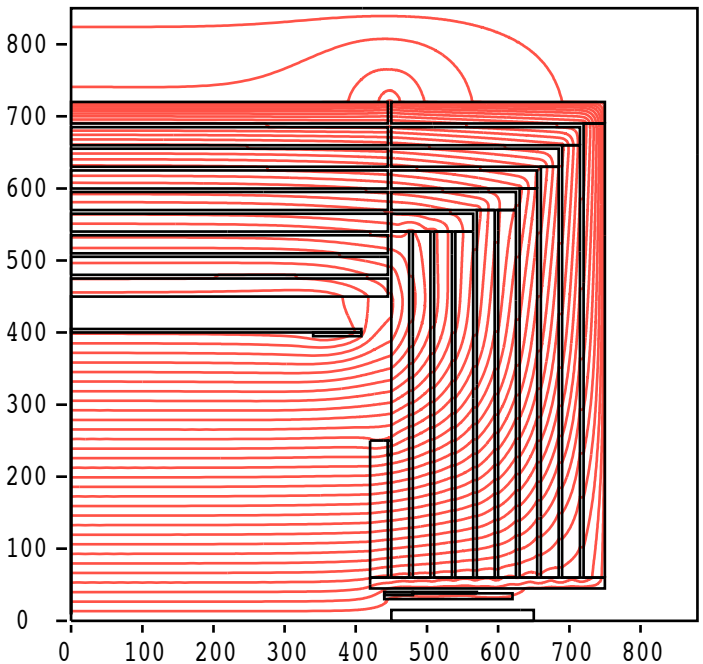
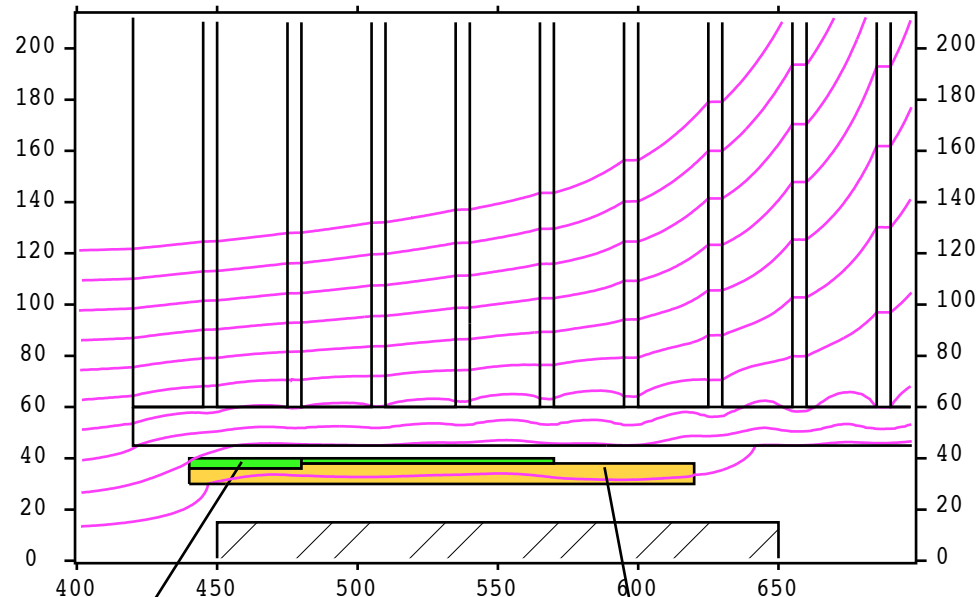
Rough Calculation

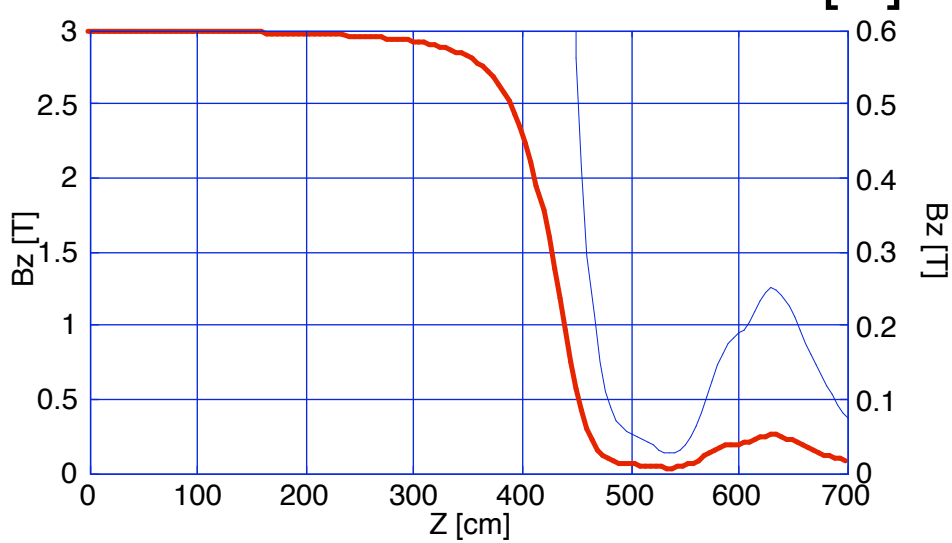




3kA/cm² 2.82E5 -5.31E4 [N]

iron shield
-1.08E5 [N]
= 12t

GLDFFAS



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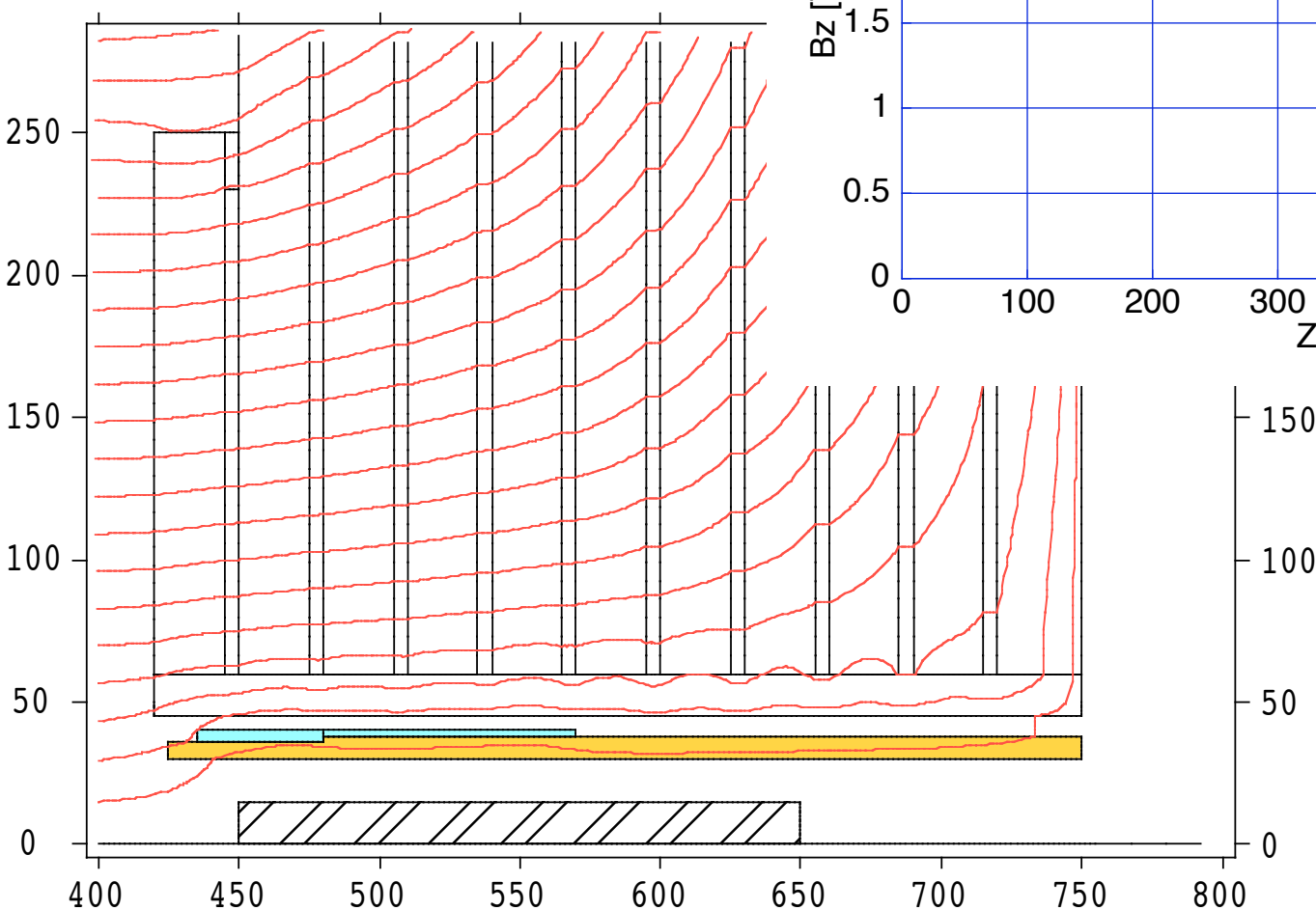
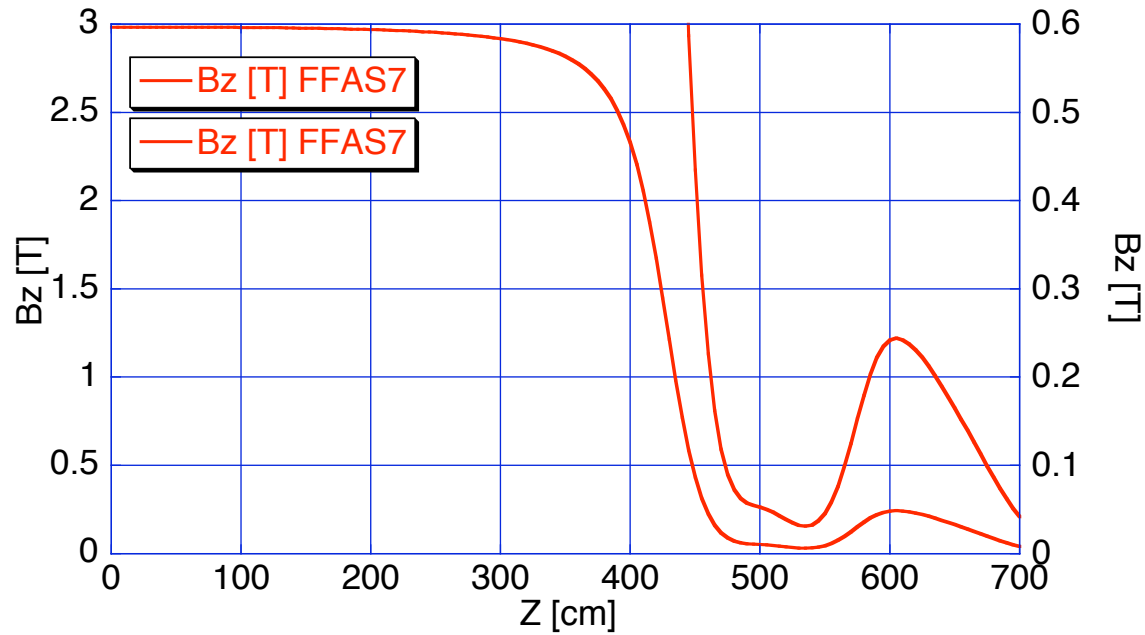
Reduced Force Anti-Solenoid





+4.03E5 [N]
-6.07E4 [N]
-3.51E5 [N]
=-0.9t

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To do

- Mover and its support
- Partial Antisolenoid and its support
- Beam simulation considering μ=1.05
- Demagnetization test for Assembled Magnet
- ...

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