Common coil configuration: Mechanics update

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Mechanical analysis

- "New" mechanical properties for the model.
- Two models of support structure under analysis:
  - A mobile support structure based on a wedge.
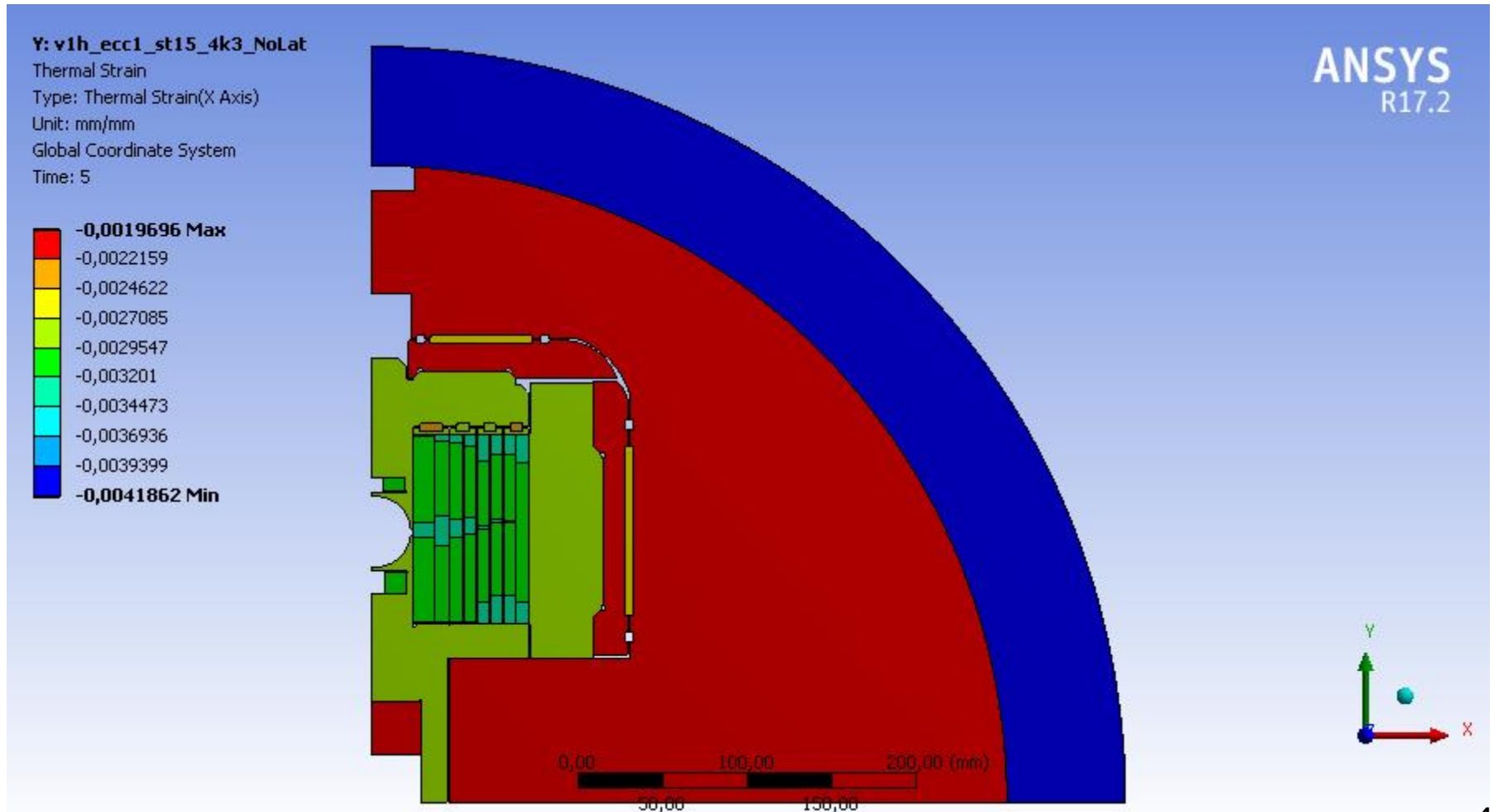 - Independent pre-stress to each coil.
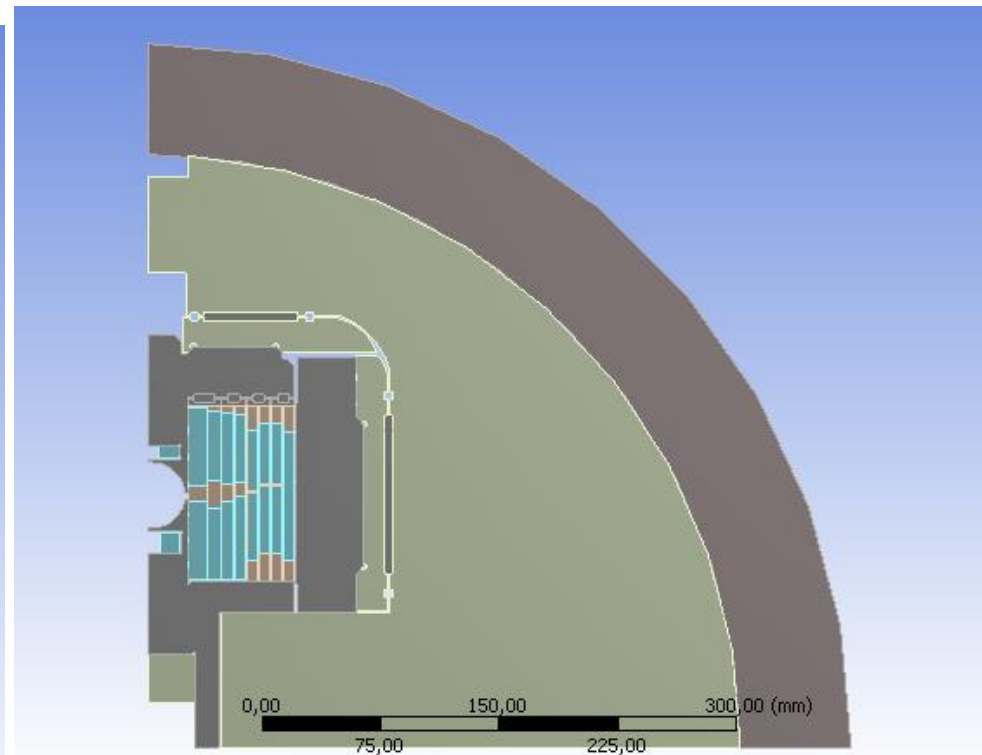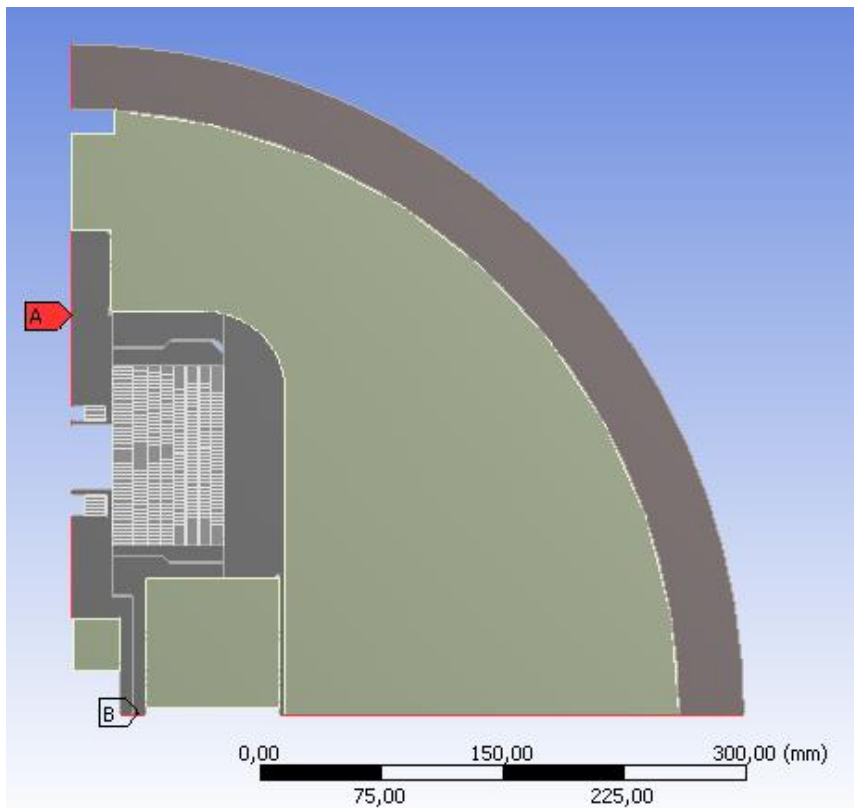
Mechanical analysis

- Preferred:
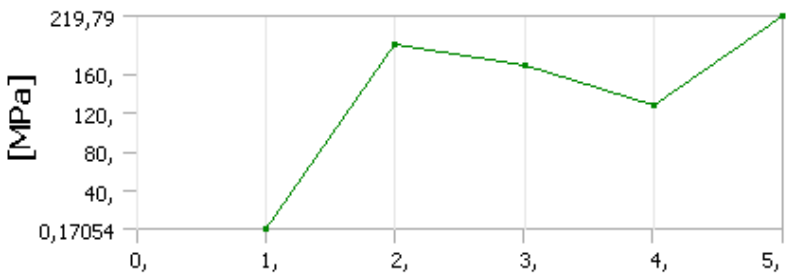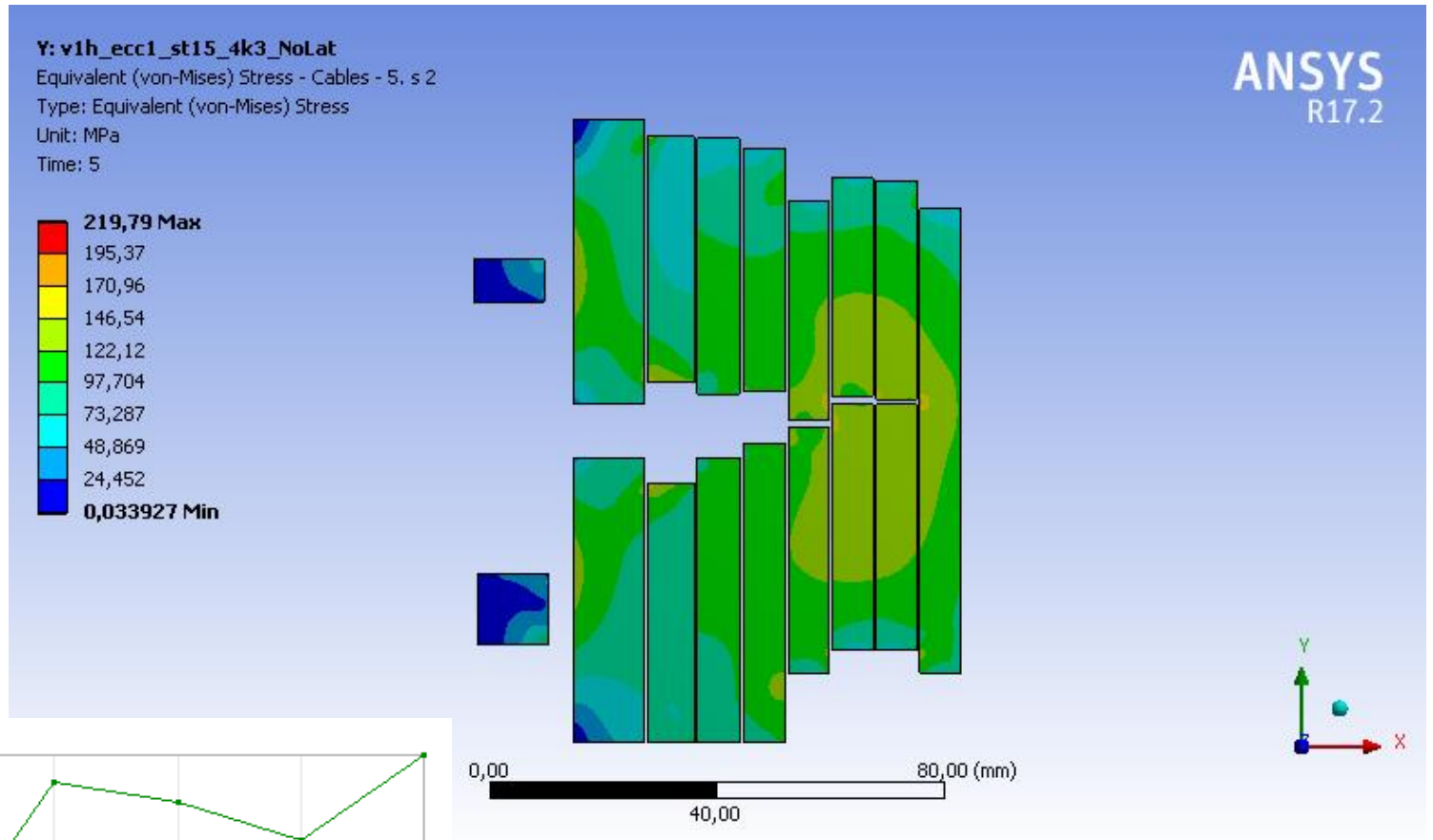 - Independent pre-stress to each coil.
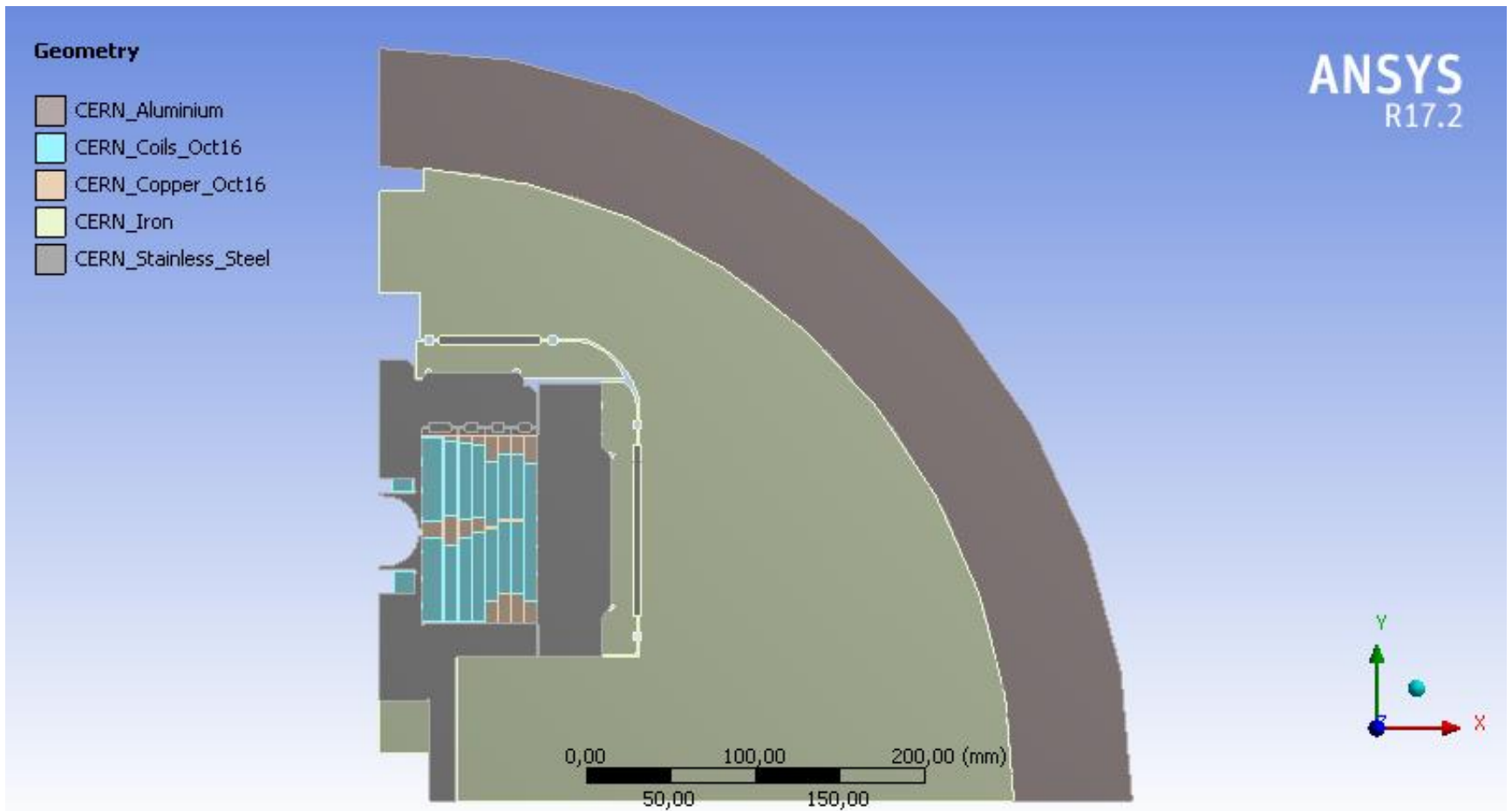
Mechanical analysis

- Thermal strains at cold

Mechanical analysis

- VM Equiv Stresses @ 16T

Mechanical analysis

- Deformation @16T

Mechanical analysis

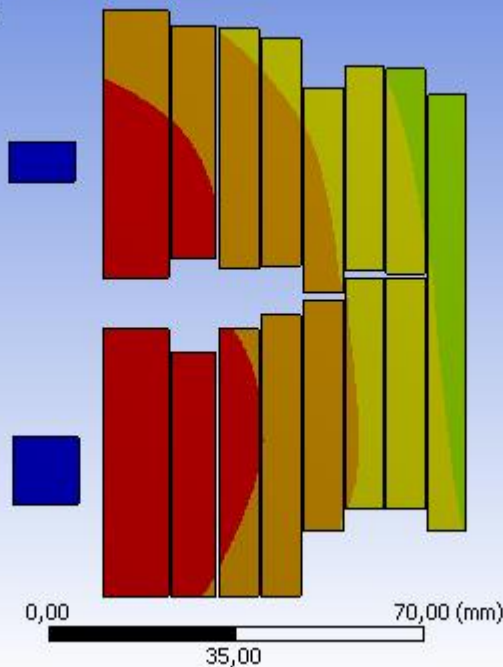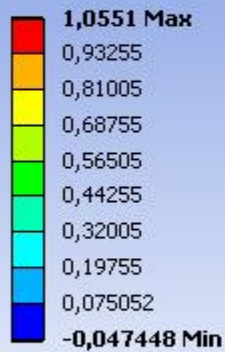- Deformation @COLD, 0 T
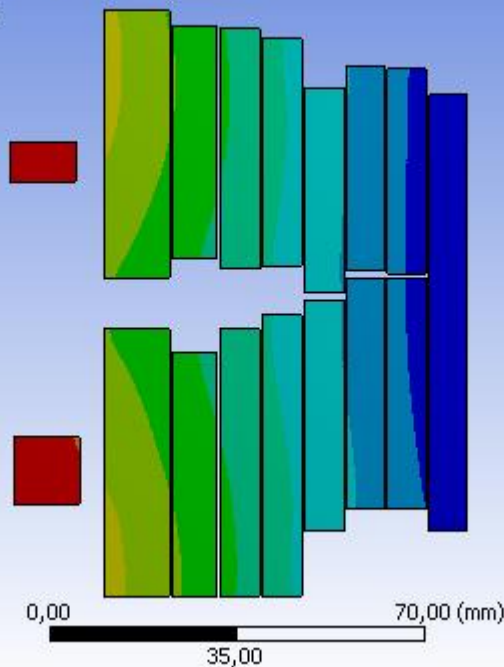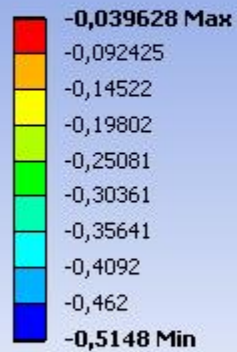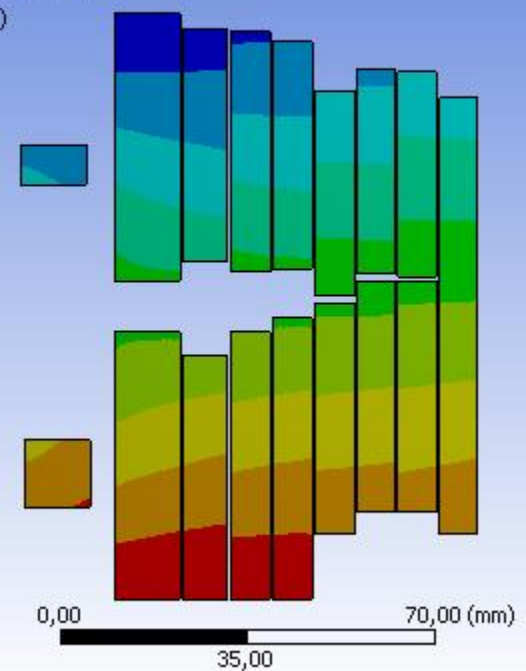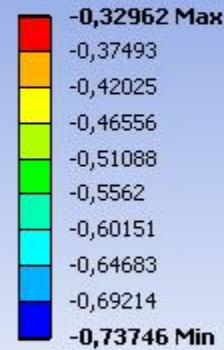
Mechanical analysis

- *Iron*

- VMEq (452 MPa)

- Max S=170 MPa

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Mechanical analysis
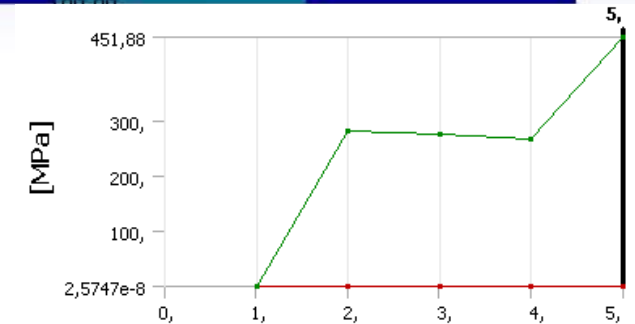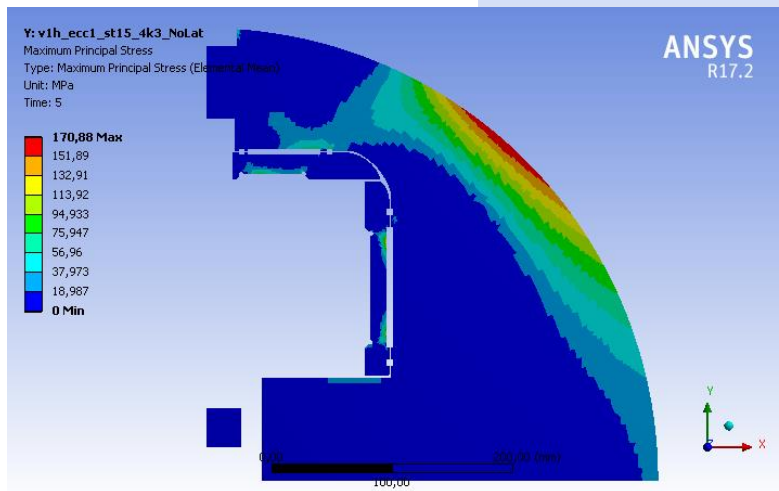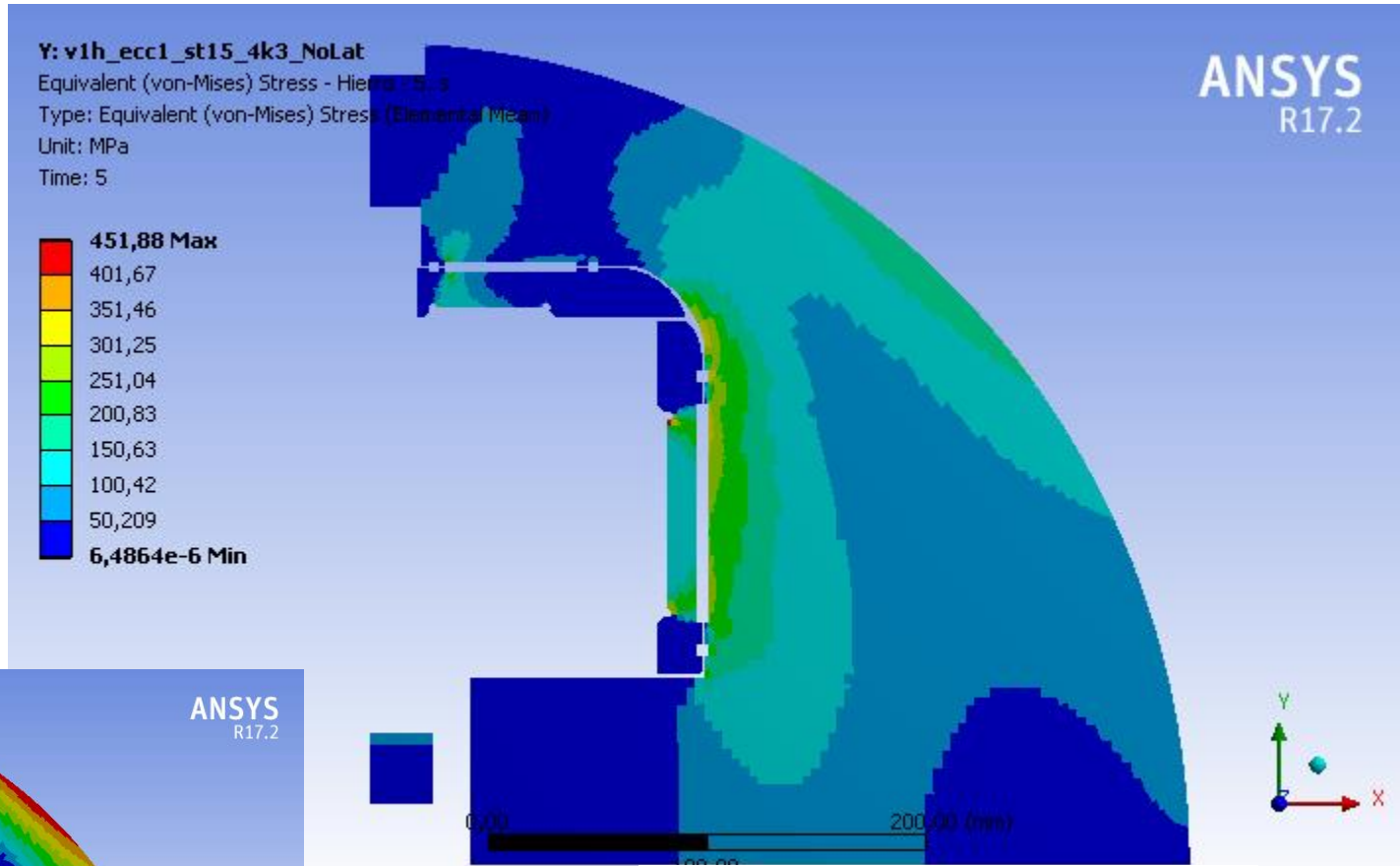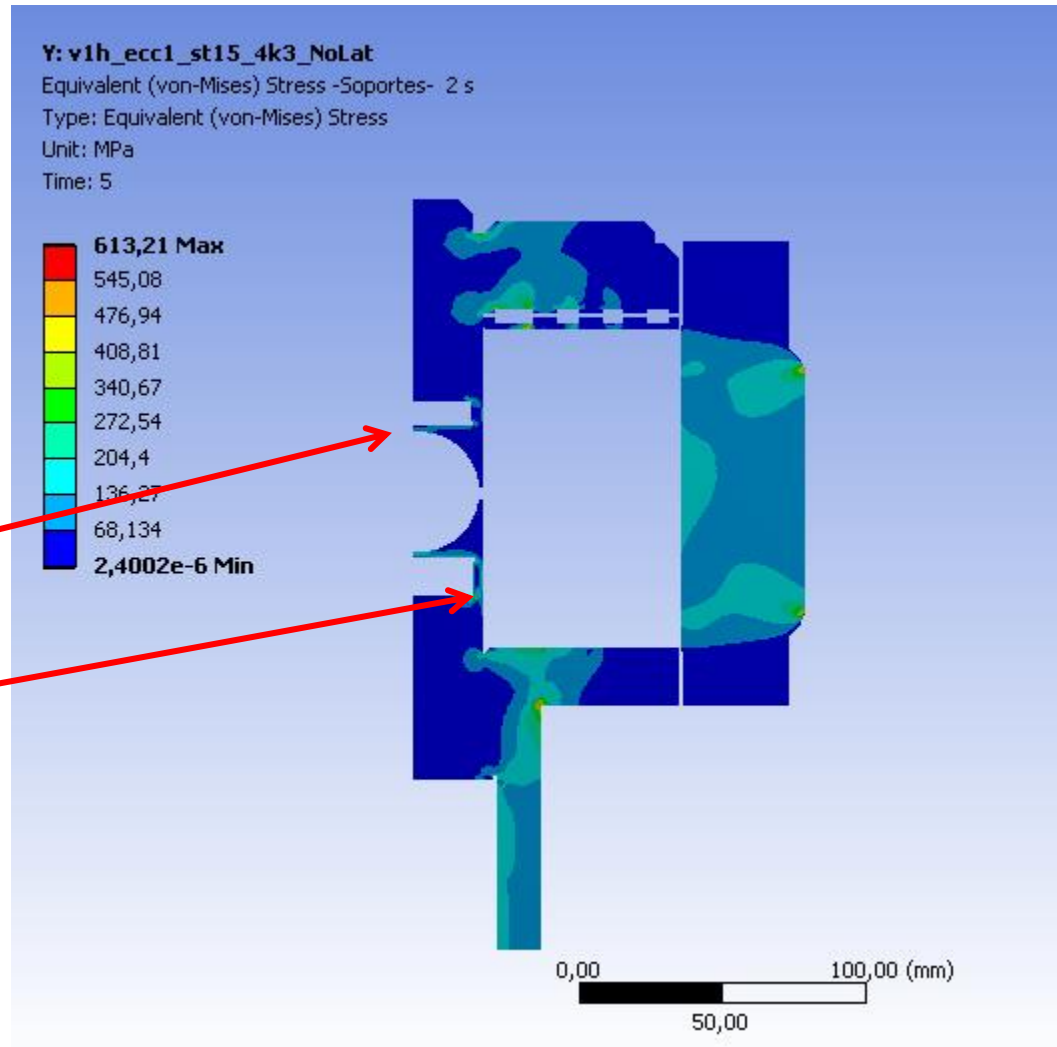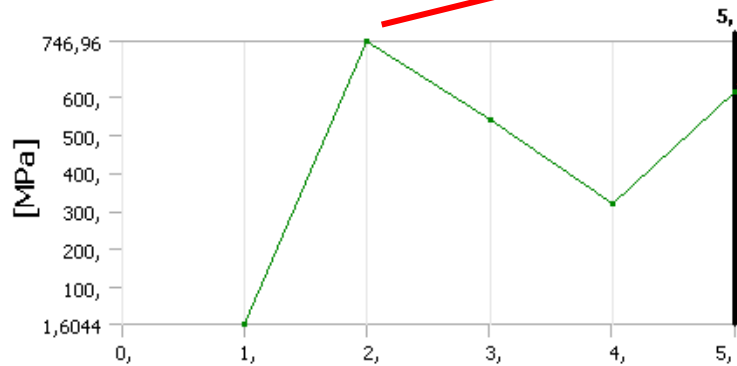
- *Supports*

(VM_Eq)

Y: v1h_ecc1_st15_4k3_NoLat
Equivalent (von-Mises) Stress -Soportes- 2 s
Type: Equivalent (von-Mises) Stress
Unit: MPa
Time: 5

613,21 Max
545,08
476,94
408,81
340,67
272,54
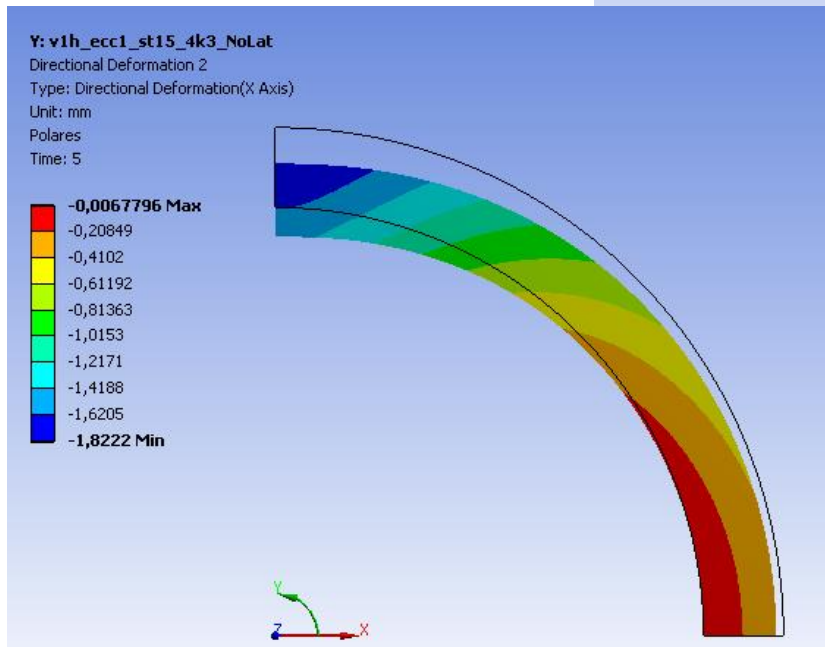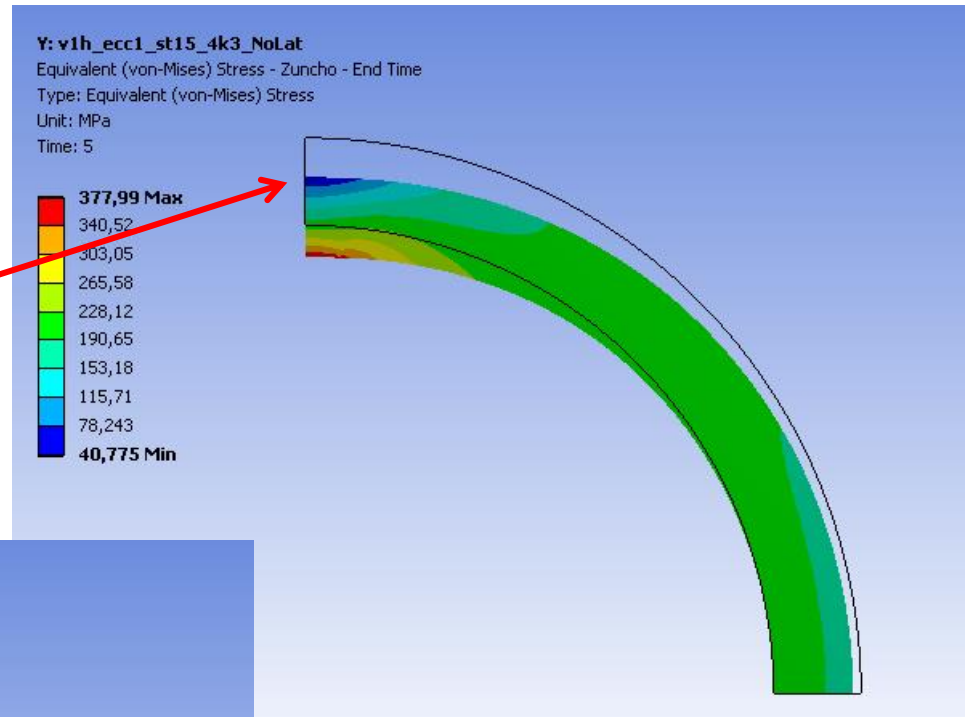204,4
136,27
68,134
2,4002e-6 Min

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Mechanical analysis

- *Shell*

  (VM_Eq 380 MPa)

  Magnified effect, but...
  Differences between
  diameters:

Mechanical analysis

- *Impregnation and Bonding*

Local peak stresses outside the cables