

6 August 2007

Farshid Feyzi



Model Summary

Model (all done with ANSYS)	Model 20 (L. Greenler, F. Feyzi, PSL)	Weld1 (L. Greenler, PSL)	Wands1 (R. Wands, FNAL)	Weld2 (L. Greenler, PSL)	Weld3 (L. Greenler, PSL)
Purpose	Overall distortions	Weld stresses	Overall distortions, bolt loads, weld stresses	Weld stress refinement	Weld stress distribution
Type of model	½ of endcap, joined nodes for bolts, solid sectors	¼ of YE1, joined nodes for welds and bolts	1/10 of YE1, Actual bolts with preload, weld strip	¼ YE1, Joined node for bolts, weld strip	¼ YE1, Joined node for bolts, weld strip
Loading	Magnetic and gravity	Magnetic	Magnetic	Magnetic	Magnetic
Maximum distortion	11 mm	14 mm	10 mm	14 mm	14 mm
Maximum weld stress		118 MPa Equivalent stress	76 MPa Stress intensity	85 MPa Equivalent stress	85 MPa Equivalent stress,
Method of calculation		Extract nodal forces, divide by area, combine	Extract nodal forces, divide by area, combine	Derived by program	Derived by program

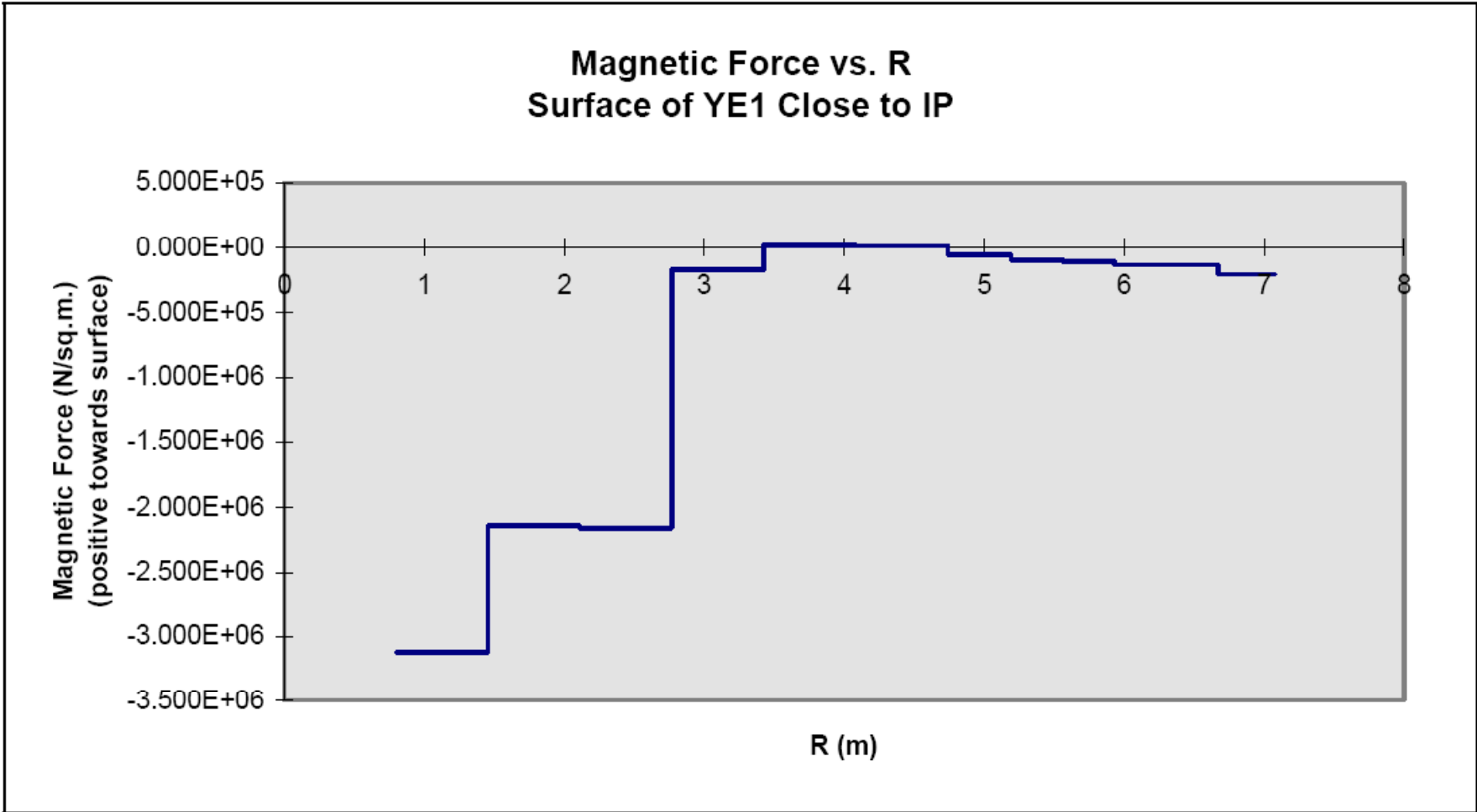


Figure 12-3: Axial force distribution on YE1 at Z=7.26 m

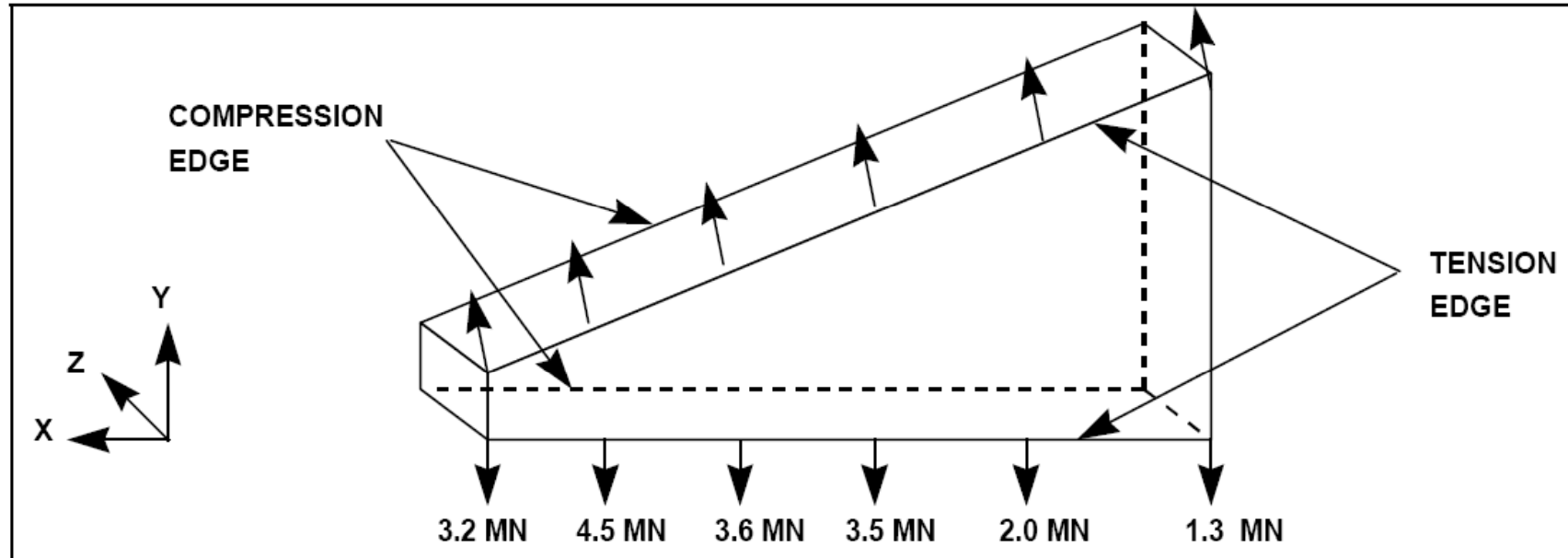
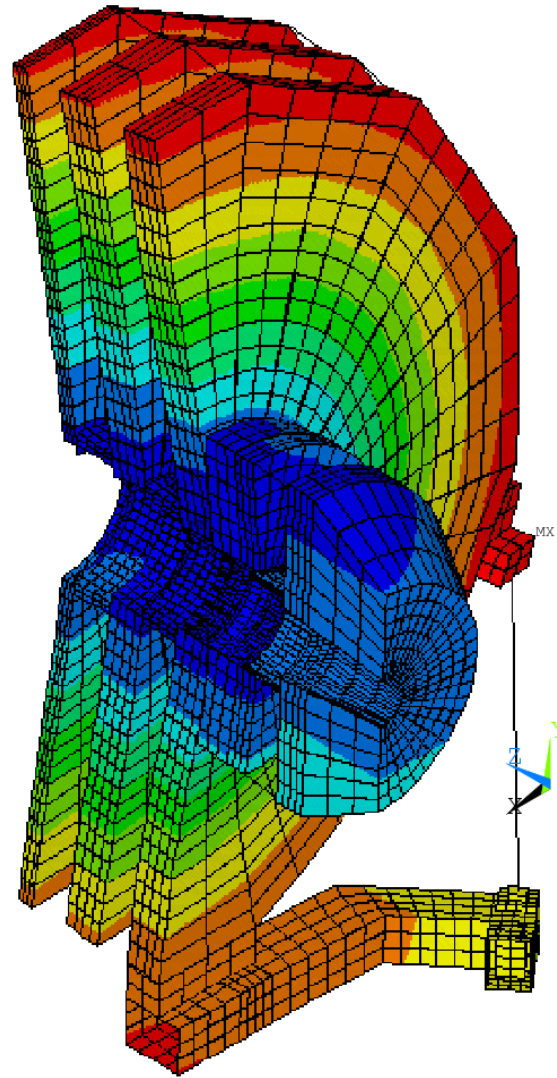


Figure 12-9:: Loads on a single sector

1



```
ANSYS 5.2  
NOV 11 1997  
10:17:02  
PLOT NO. 1  
NODAL SOLUTION  
STEP=1  
SUB =1  
TIME=1  
UZ  
TOP  
RSYS=0  
DMX =.010336  
SEPC=49.155  
SMN =-.010325  
SMX =.005919  
-.010325  
-.00852  
-.006715  
-.004911  
-.003106  
-.001301  
.504E-03  
.002309  
.004114  
.005919
```



6 August 2007

Farshid Feyzi



6



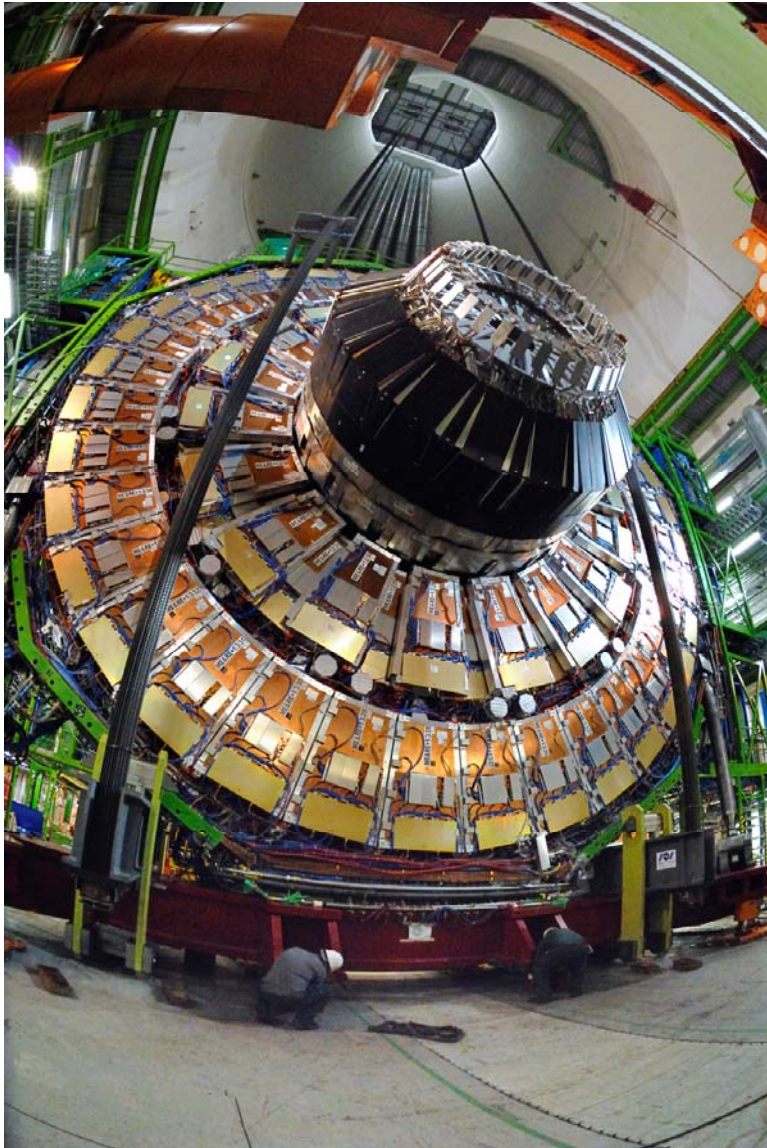


6 August 2007

Farshid Feyzi



8

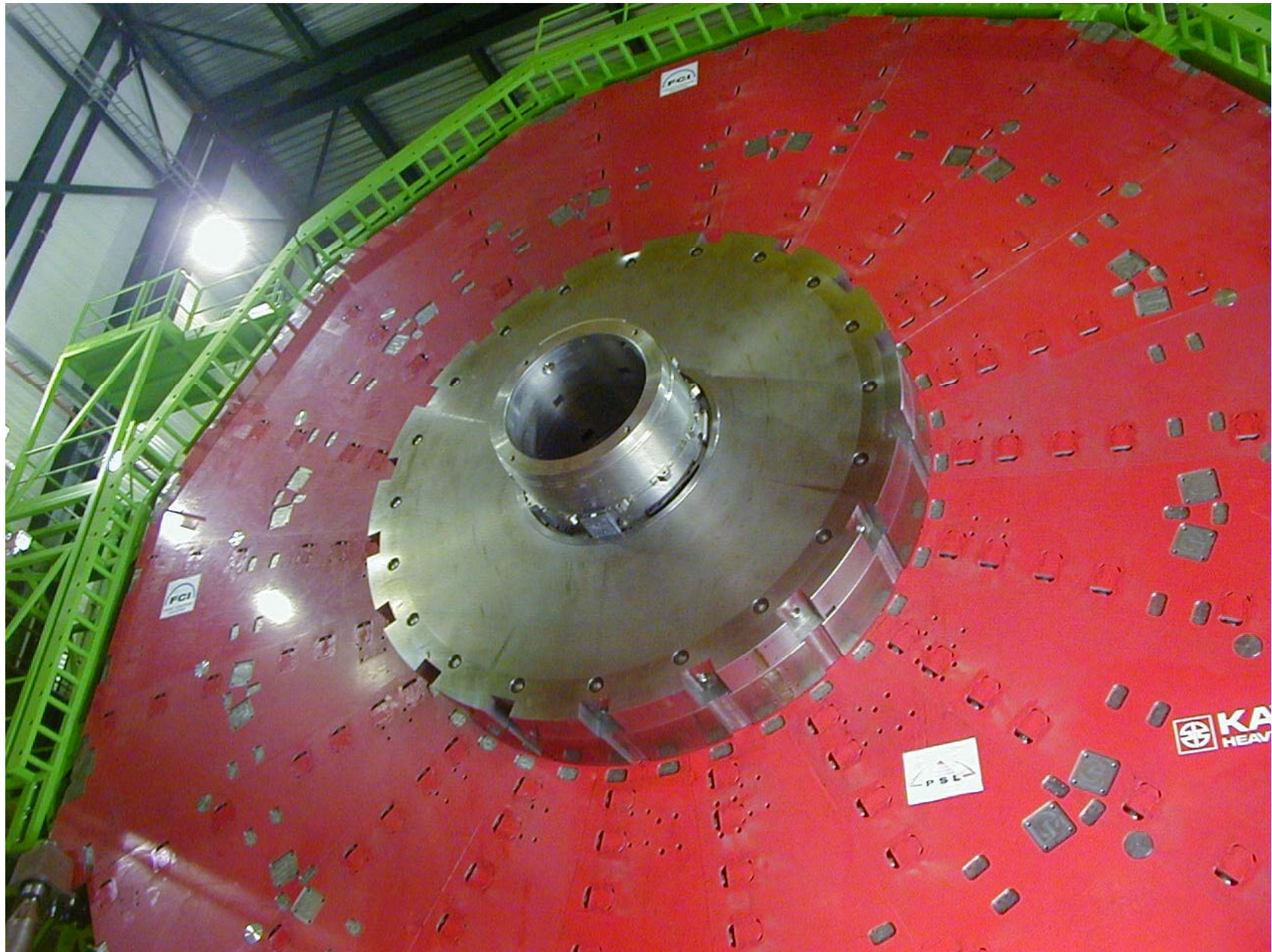


6 August 2007

Farshid Feyzi



9

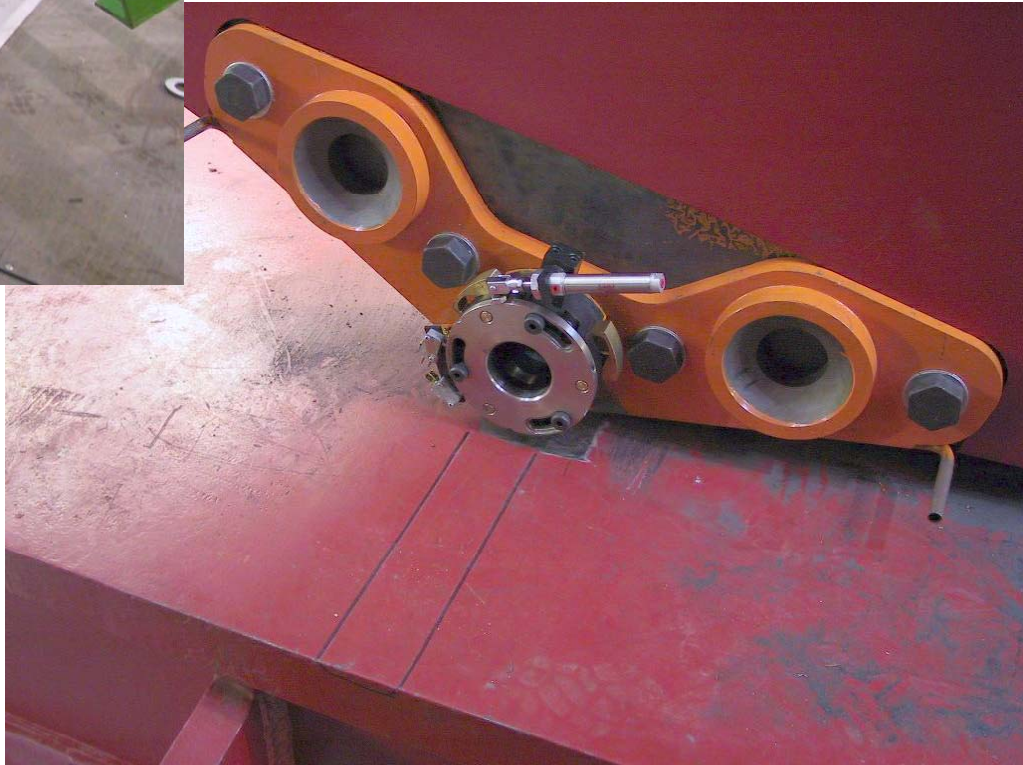


6 August 2007

Farshid Feyzi



10



6 August 2007

Farshid Feyzi



11