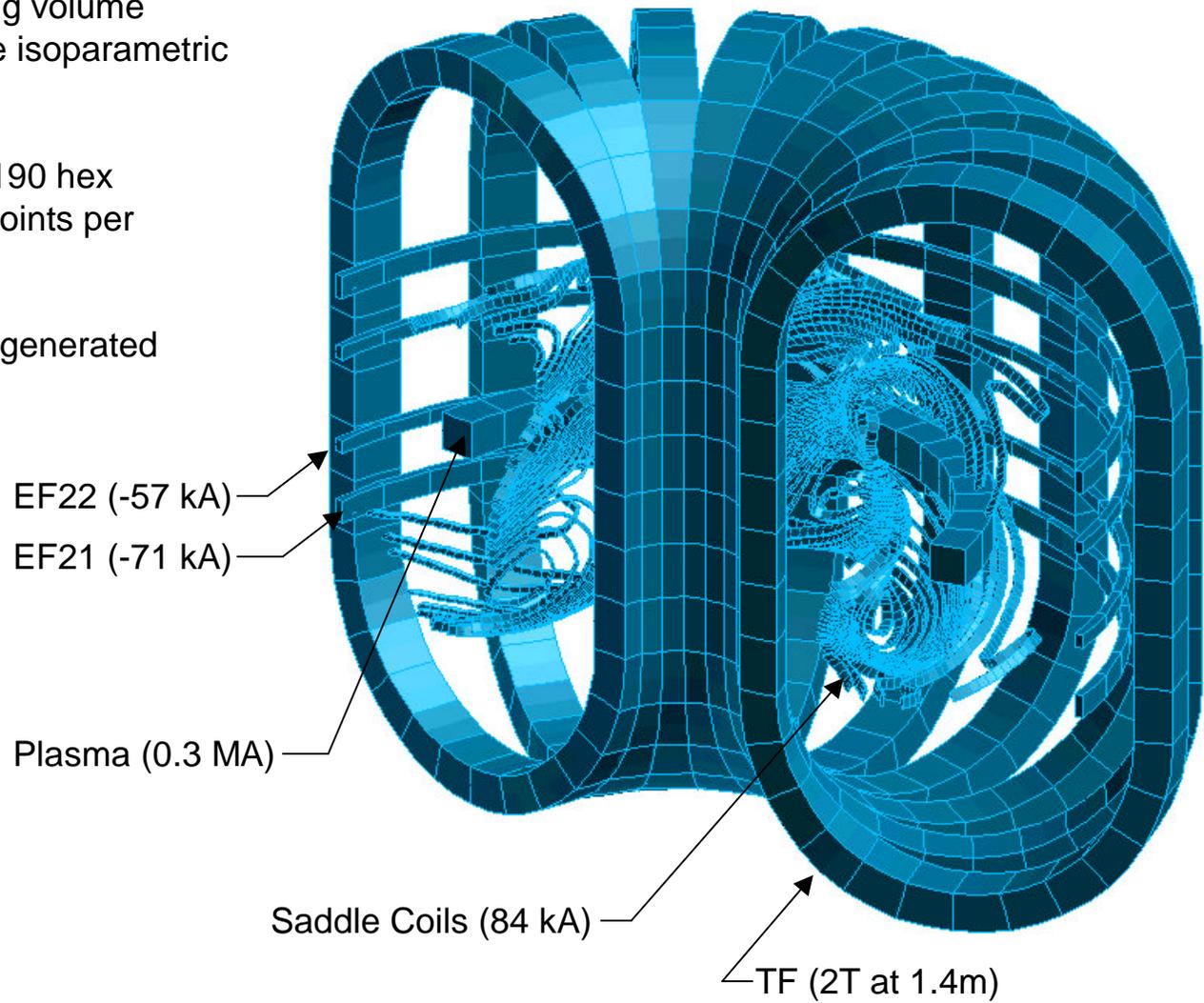


Field/Force Calculation Model

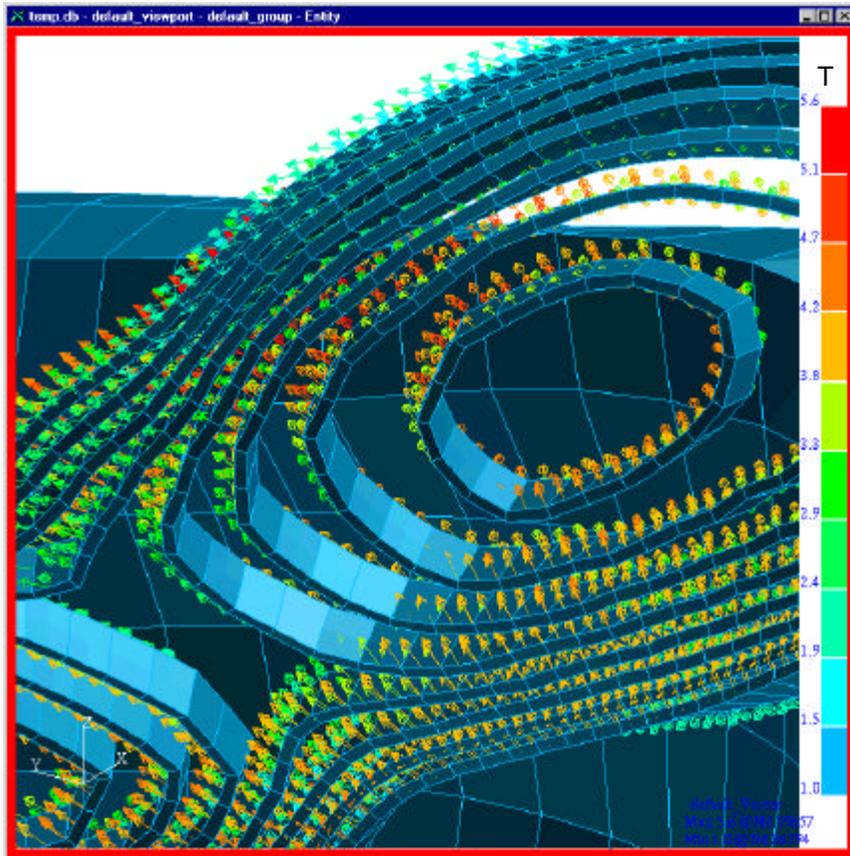
Fields calculated using volume integration of 20-node isoparametric elements (MAGFOR)

Present model has 9190 hex elements, 64 gauss points per element

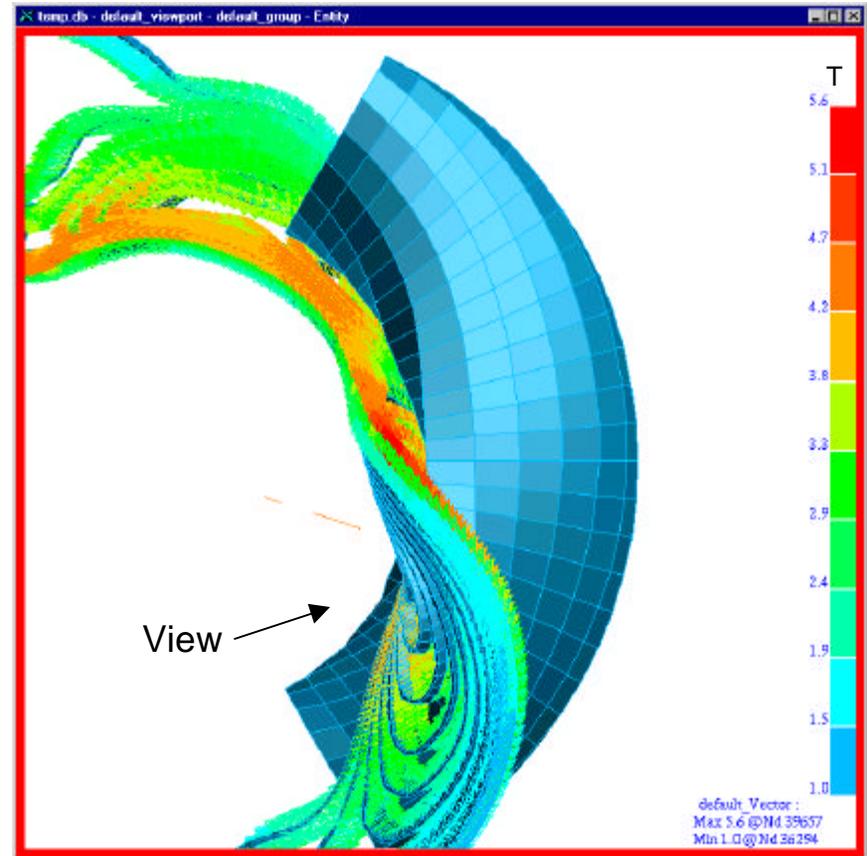
Saddle coil elements generated using ProE “.ibl” files



Field Vectors for One Half-Period Saddle Coils

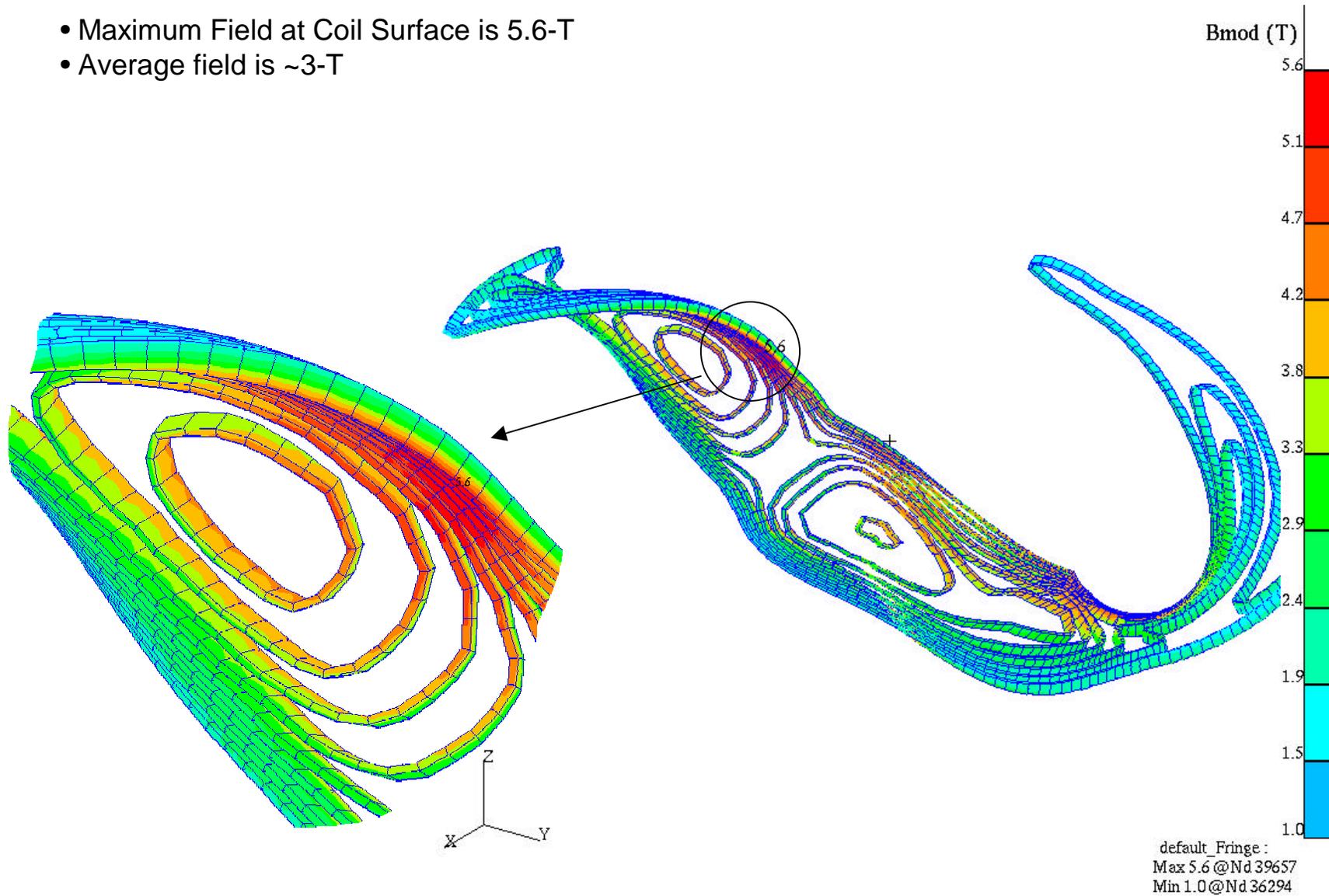


View

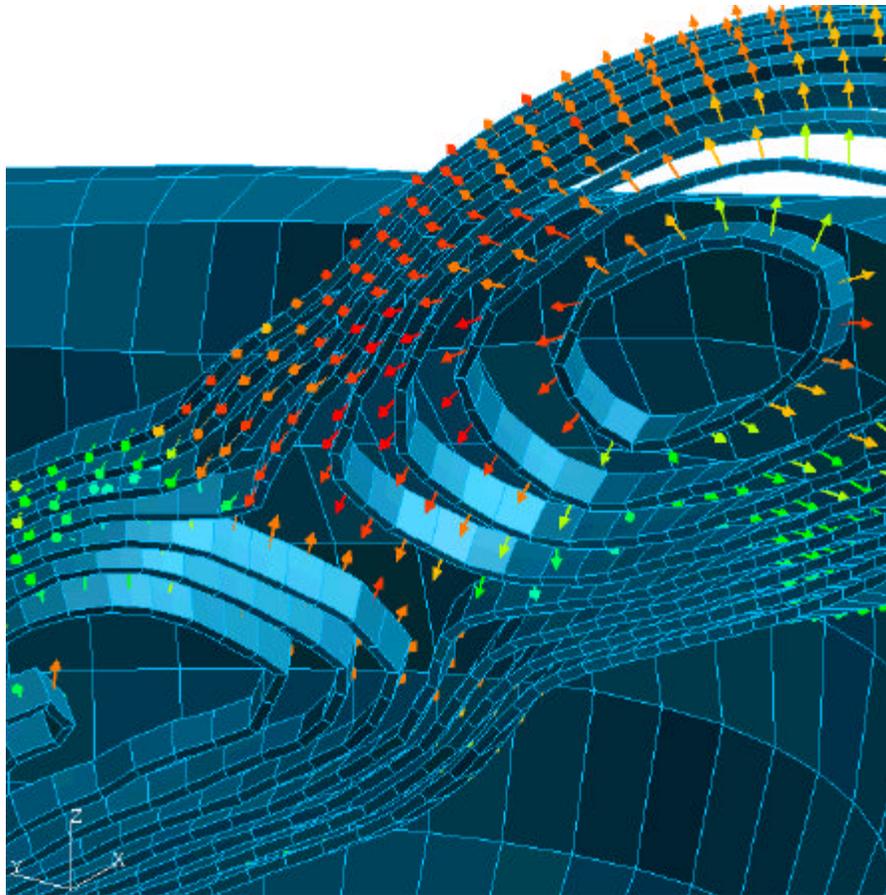


BMOD Nodal Fringe Plot

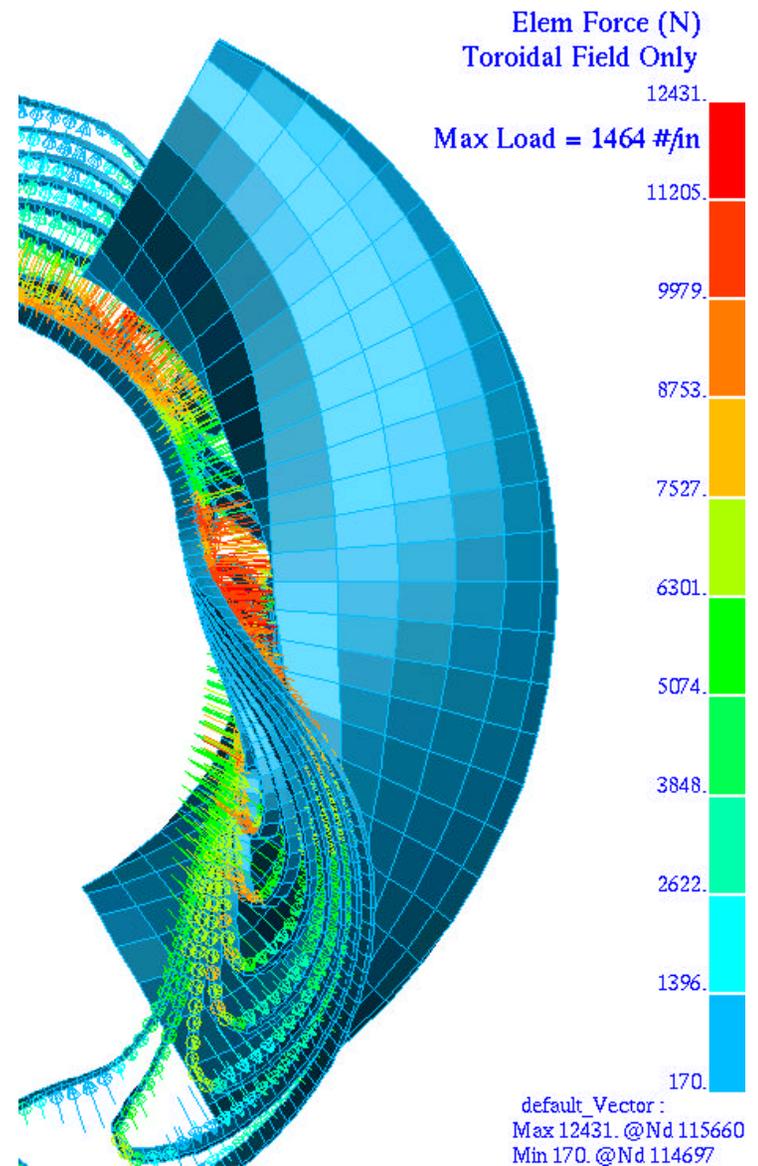
- Maximum Field at Coil Surface is 5.6-T
- Average field is ~3-T



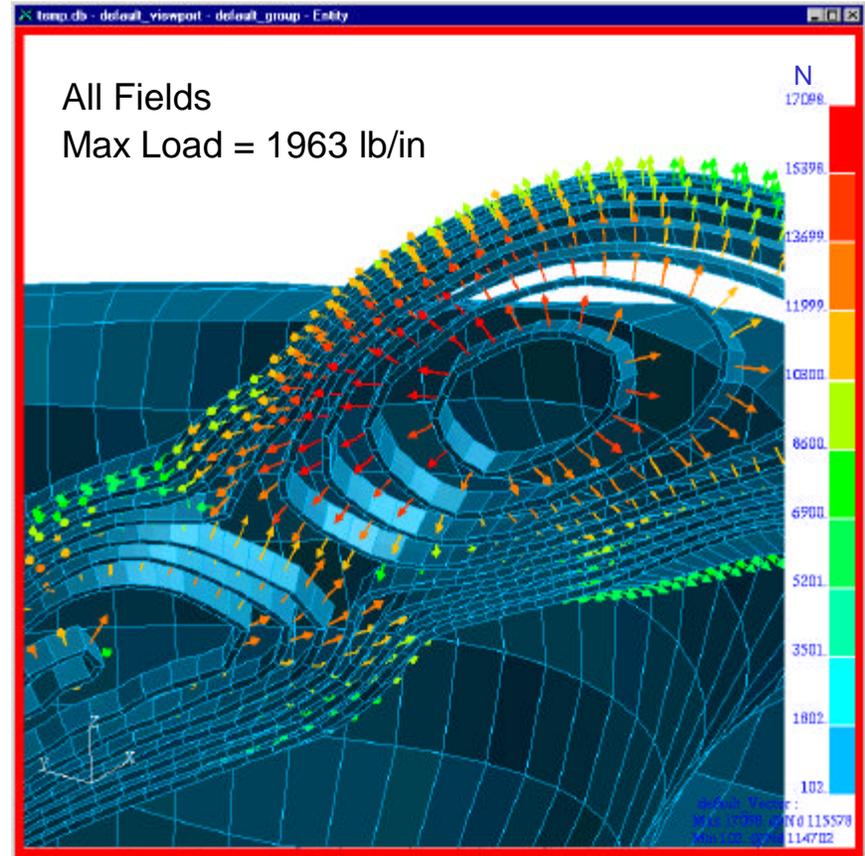
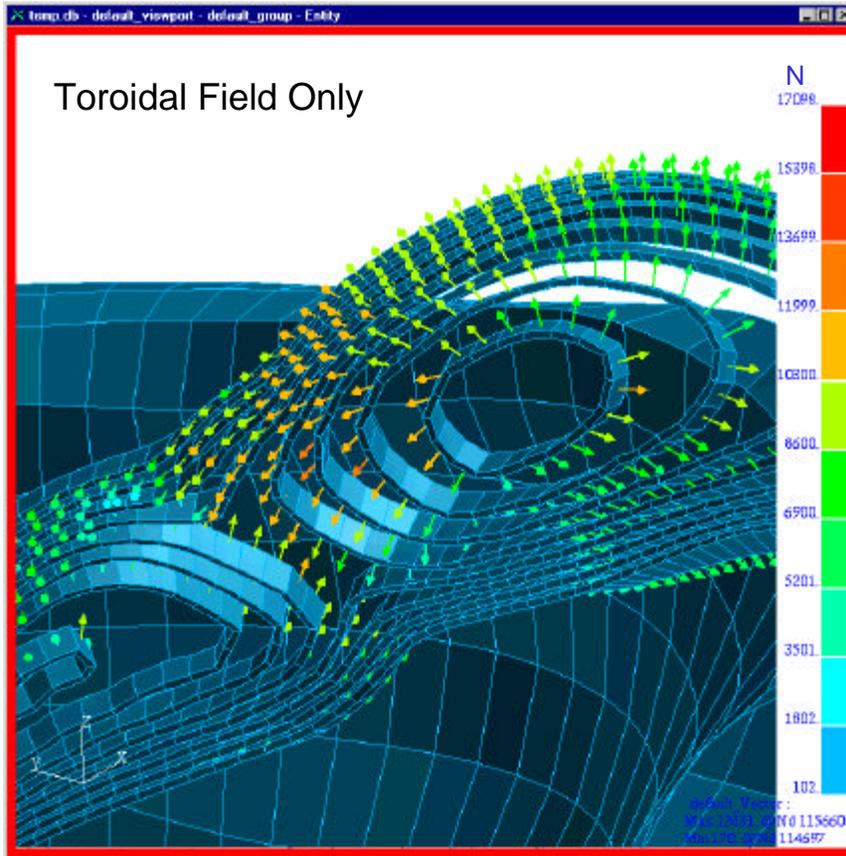
Force Due To Toroidal Field



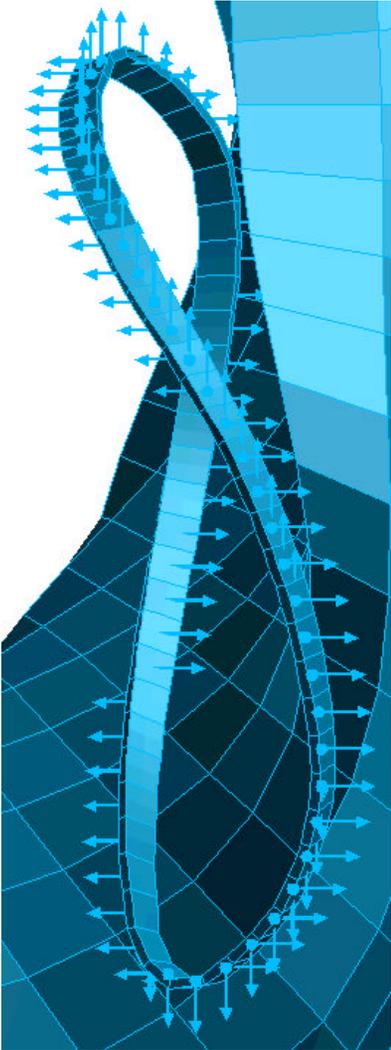
View Inside Looking Out



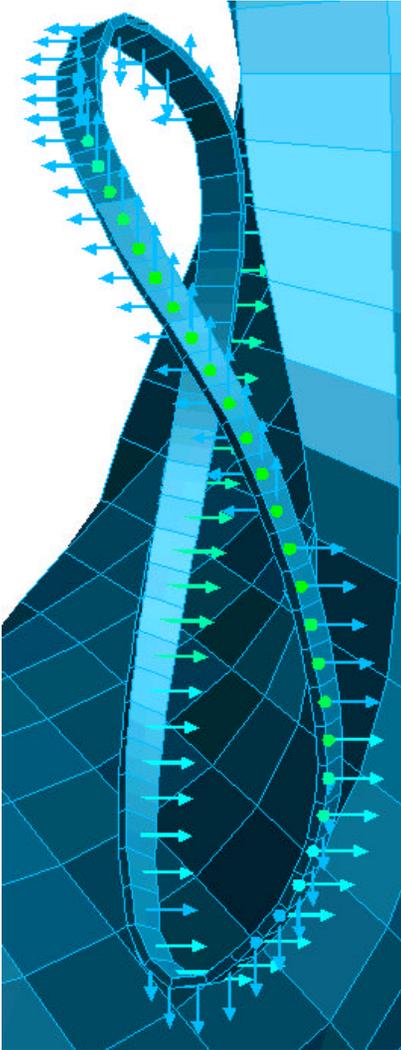
Force Comparison Using Different Field Components



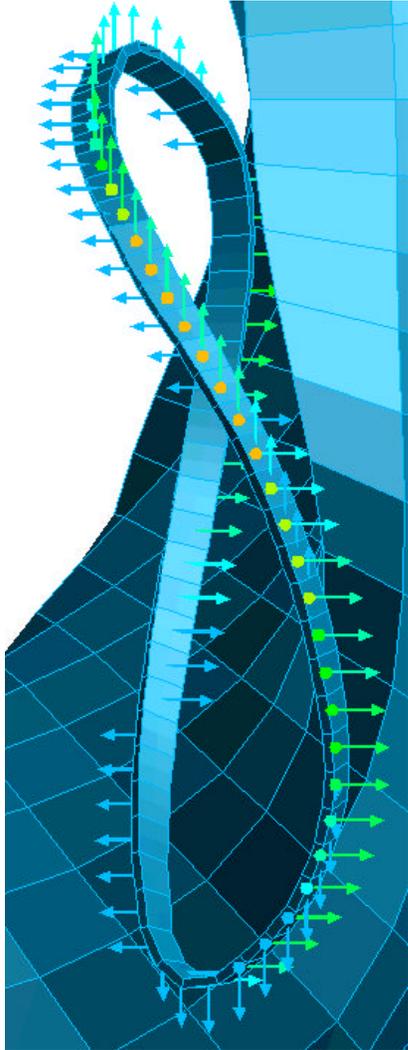
Force Distribution on Coil #5 (Plan View)



Poloidal Field



Toroidal Field



All Fields



Field/Force Calculation Summary

Max load appears to agree with estimate (~1500-lb/in)

Still checking results; would like to compare with ANSYS

Proceeding with structural analysis of rib-type winding form