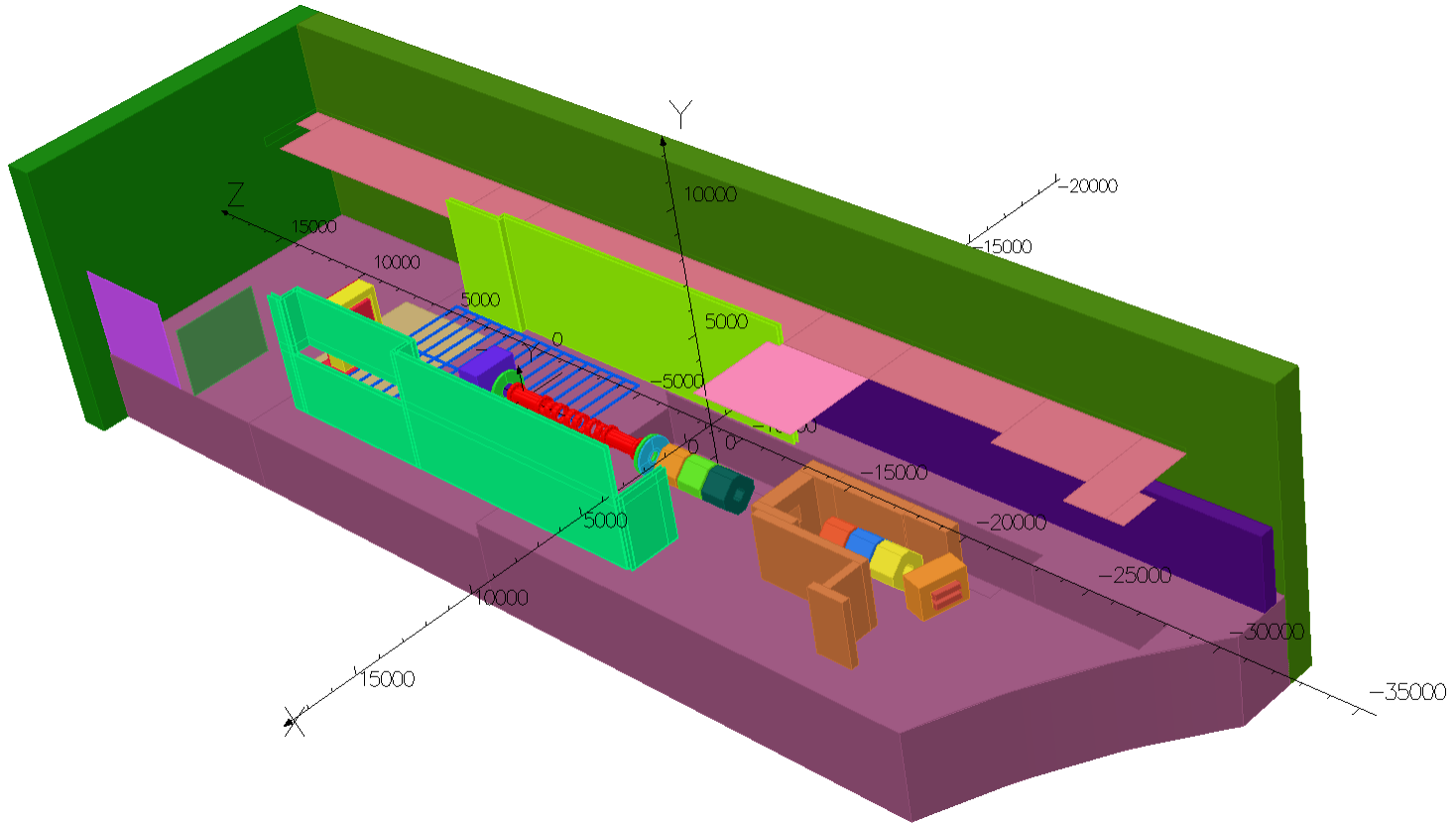


Modelling Update – 10/10/12

10/Oct/2012 13:55:36



Opera

Update

I've added a couple of components this week

- Steel door at the entrance to the MICE Hall
- North Mezzanine Steel Floor (Still work in progress)

Both of these components are flat sheets that interfere with other pre-built geometry and so it requires some effort to get them to mesh correctly and reliably.

Other minor geometry/corrections changes undertaken.

Ran the first step VI model successfully this weekend (the computer was idle over weekend so I gave it a try!)

Mike Courthold has been working hard on trying to get a field map out of a larger model to place into a sub-model. Not succeeded yet but will resume work on this when he returns from his holidays.

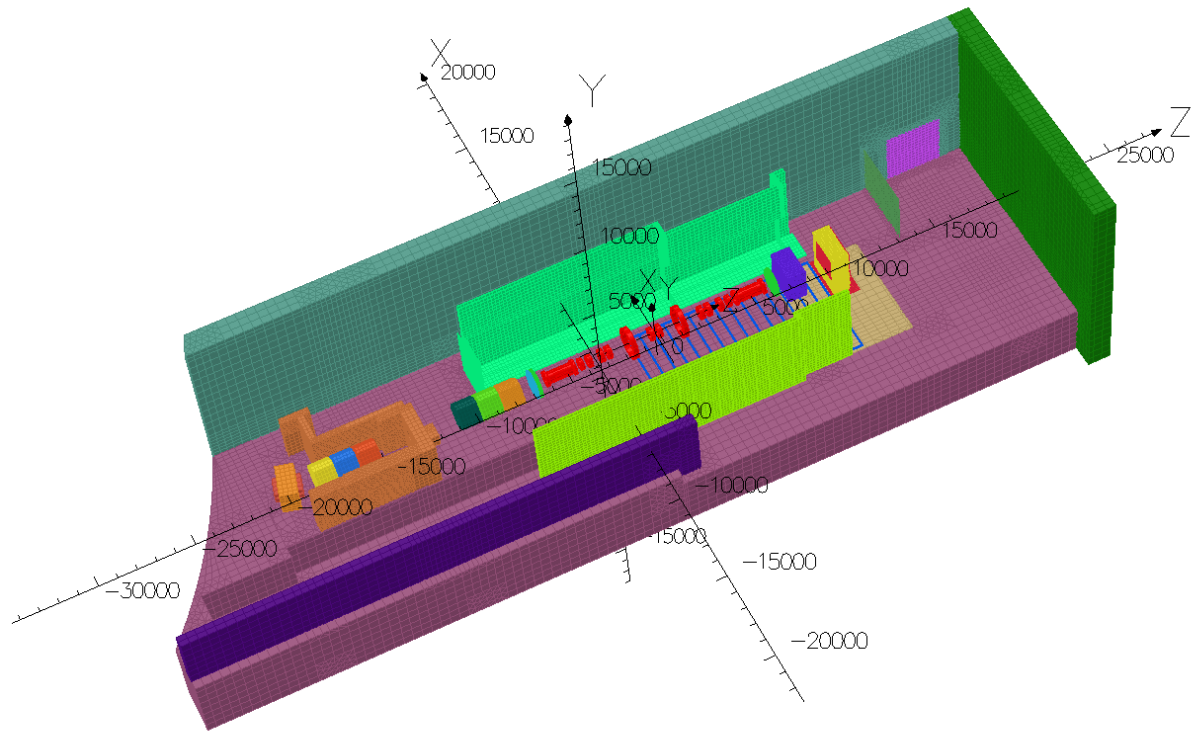
Step VI model

The Step VI model moves some geometry when compared to the Step IV model so I decided to give it a try on Friday night to see if it would fall over if I ran it...

Model had solved correctly by Monday so no meshing issues!

Like all of the other plots the **results are preliminary** (I'm not sure when they won't be preliminary any more but this needs discussion!) but there are a couple of interesting plots that I want to show, particularly in light of the circulation of the STEP VI proposal for the plant room layout

As these are STEP VI plots we should exercise care as I don't wish to cause a distraction...



UNITS

Length	mm
Magn Flux Density	T
Magnetic Field	A/m
Magn Scalar Pot	A
Current Density	A/mm ²
Power	W
Force	N

MODEL DATA
Hall_Test_19.op3
TOSCA Magnetostatic
Nonlinear materials
Simulation No 1 of 1
4438267 elements
7108890 nodes
18 conductors
Nodally interpolated fields
Activated in global coordinates

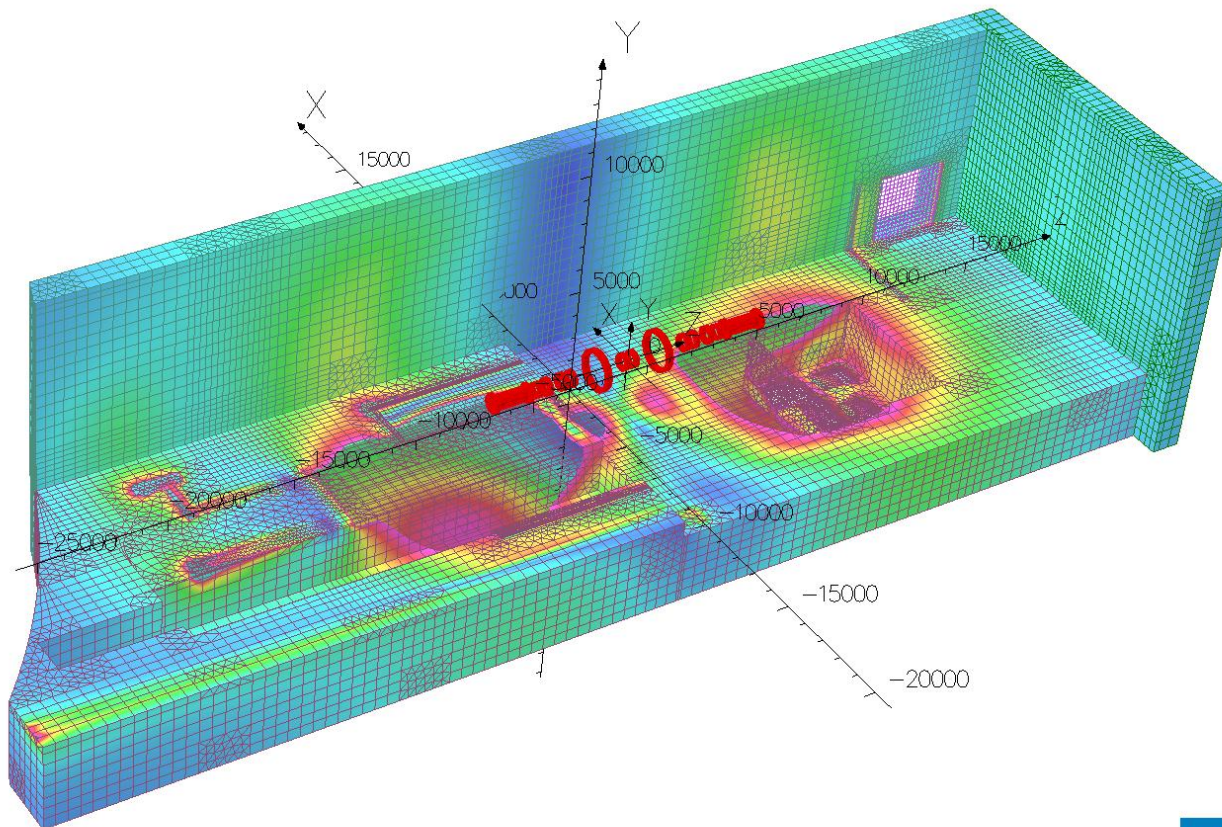
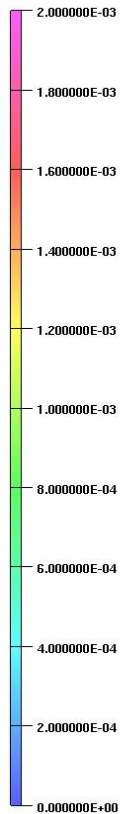
Field Point Local Coordinates
Local = Global



Model Overview Step VI

10/Oct/2012 13:23:03

Surface contours: BMOD



UNITS

Length	mm
Magn Flux Density	T
Magnetic Field	A/m
Magn Scalar Pot	A
Current Density	A/mm ²
Power	W
Force	N

MODEL DATA

Hall_Test_19_op3
TOSCA Magnetostatic
Nonlinear materials
Simulation No 1 of 1
4438267 elements
7108890 nodes
18 conductors
Nodally interpolated fields
Activated in global coordinates

Field Point Local Coordinates

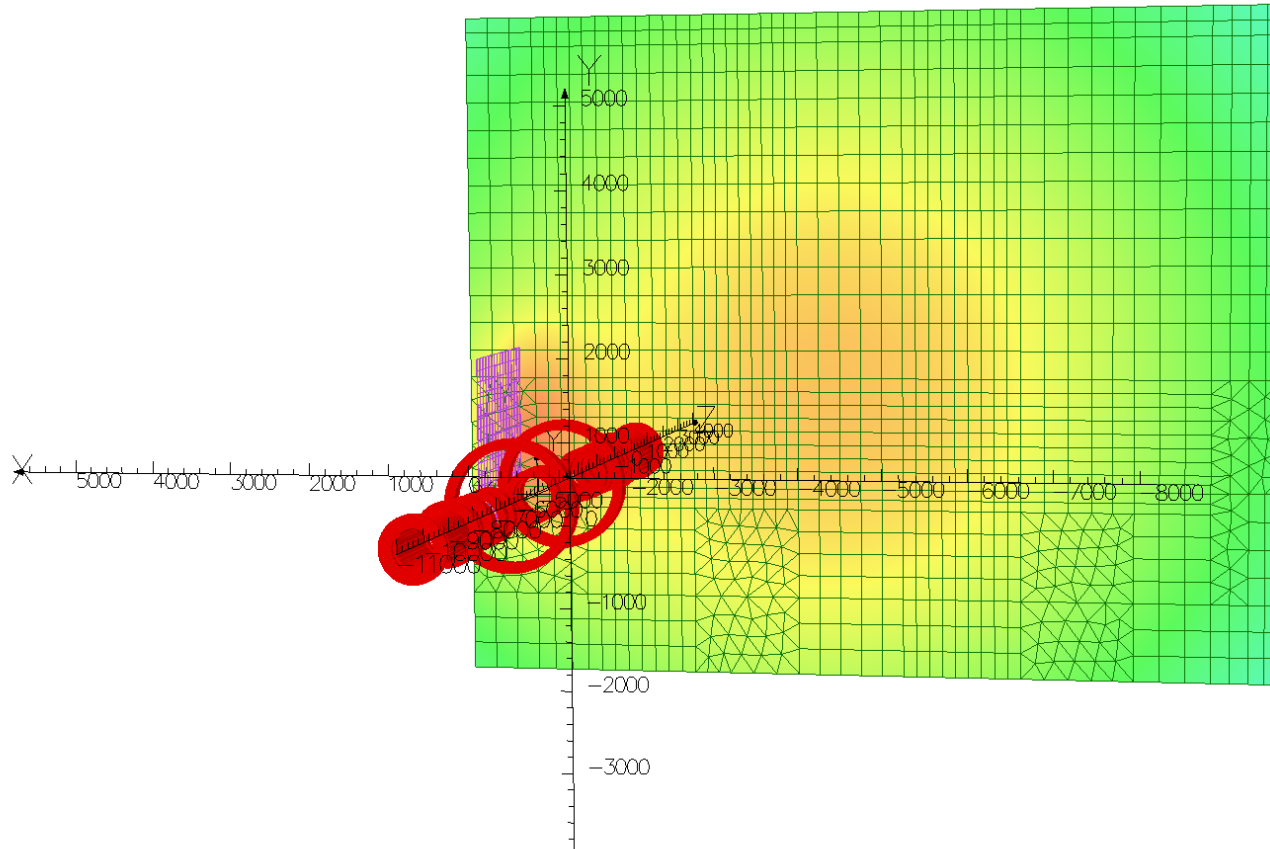
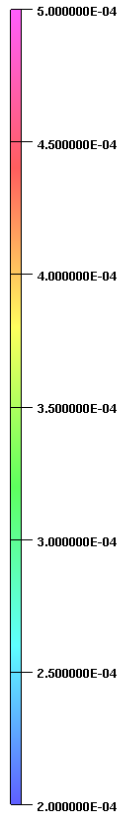
Local = Global



STEP VI - South Wall – 20 gauss scale

10/Oct/2012 13:25:52

Surface contours: BMOD



UNITS	
Length	mm
Magn Flux Density T	
Magnetic Field	A/m
Magn Scalar Pot	A
Current Density	A/mm ²
Power	W
Force	N

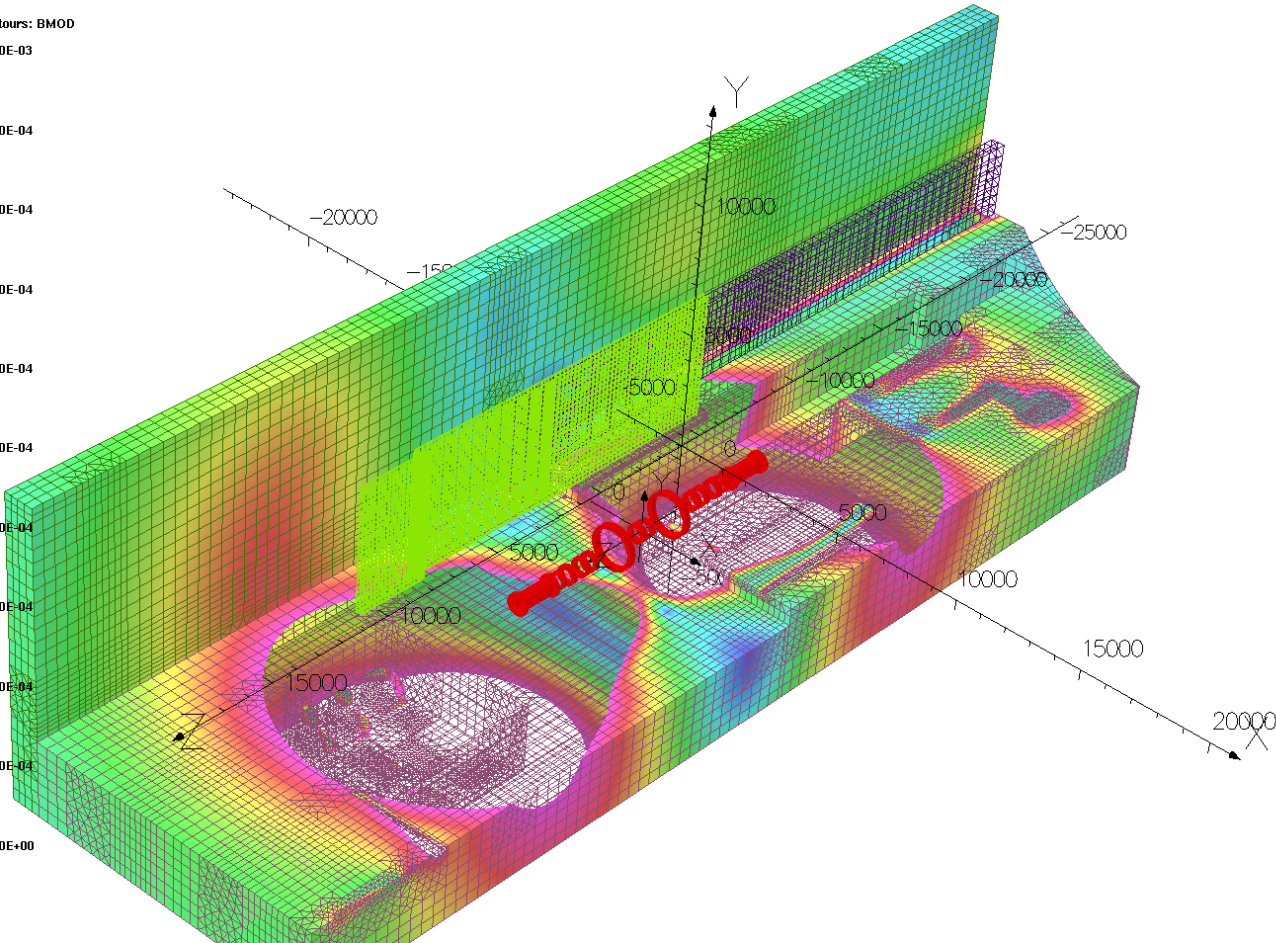
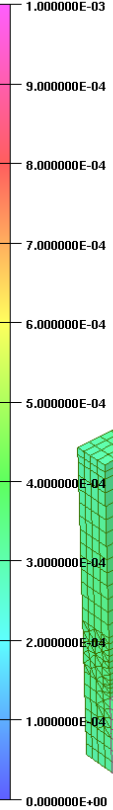
MODEL DATA
Hall_Test_19.op3
TOSCA Magnetostatic
Nonlinear materials
Simulation No 1 of 1
4438267 elements
7108890 nodes
18 conductors
Nodally interpolated fields
Activated in global coordinates

Field Point Local Coordinates
Local = Global

Opera

STEP VI - West Wall – 2-5 gauss scale

Surface contours: BMOD



UNITS	
Length	mm
Magn Flux Density	T
Magnetic Field	A/m
Magn Scalar Pot	A
Current Density	A/mm ²
Power	W
Force	N
MODEL DATA	
Hall_Test_19.op3	
TOSCA Magnetostatic	
Nonlinear materials	
Simulation No 1 of 1	
4438267 elements	
7108890 nodes	
18 conductors	
Nodally interpolated fields	
Activated in global coordinates	
Field Point Local Coordinates	
Local = Global	



STEP VI - South Wall – 10 gauss scale

I've only quickly put together these screenshots whilst preparing these slides but I think the output files need looking at a bit more carefully so that appropriate plots can be produced in the areas of interest...

Craig has in the 'interim' volunteered to take a closer look at the output files to produce some better field plots in the areas of interest.