

First look at Fry list items and areas using P.Smith Model 91

C.Macwaters RAL 3/9/13

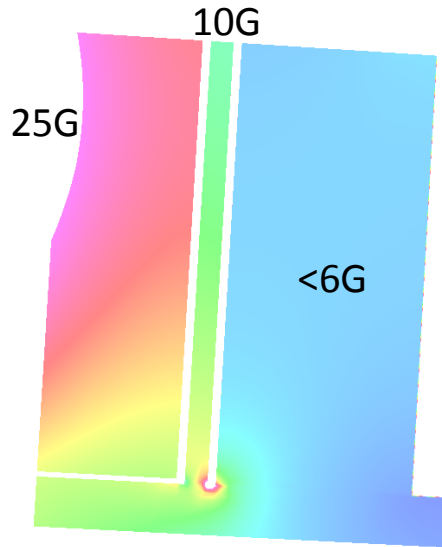
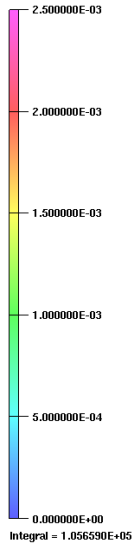
Using exact coordinates

- North Mezz ext power dist board 47G
- Mike C DSA fridge kit ~15G
- Trench Max 40G
- Tracker racks behind NSW ~8G
- LH2 gas panel 80 to 200G
- Q9 PSU 27G

Upstream tracker rack behind NSW

2/Sep/2013 15:13:22

Map contours: BMOD



UNITS

Length mm
Magn Flux Density T
Magnetic Field A/m
Magn Scalar Pot A
Current Density A/mm²
Power W
Force N

MODEL DATA

Hall_Test_91.op3
Magnetostatic (TOSCA)
Nonlinear materials
Simulation No 1 of 1
15907802 elements
27271399 nodes
12 conductors
Nodally interpolated fields
Activated in global coordinates

Field Point Local Coordinates

Local = Global

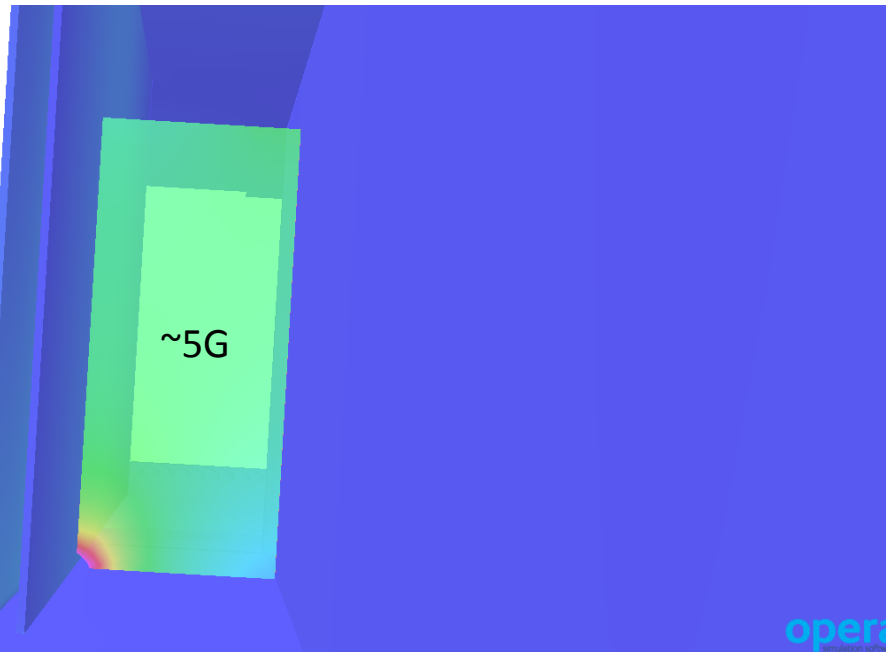
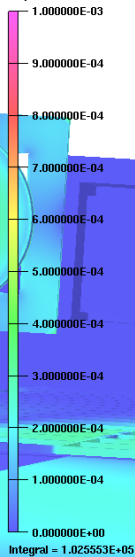
FIELD EVALUATIONS

Cartesian (nodal)	CARTESIAN	200x200	Cartesian
x=-4000.0 to -6500.0	y=-2000.0 to 1000.0	z=-4500.0	

opera
simulation software

2/Sep/2013 15:08:29

Map contours: BMOD



UNITS

Length mm
Magn Flux Density T
Magnetic Field A/m
Magn Scalar Pot A
Current Density A/mm²
Power W
Force N

MODEL DATA

Hall_Test_91.op3
Magnetostatic (TOSCA)
Nonlinear materials
Simulation No 1 of 1
15907802 elements
27271399 nodes
12 conductors
Nodally interpolated fields
Activated in global coordinates

Field Point Local Coordinates

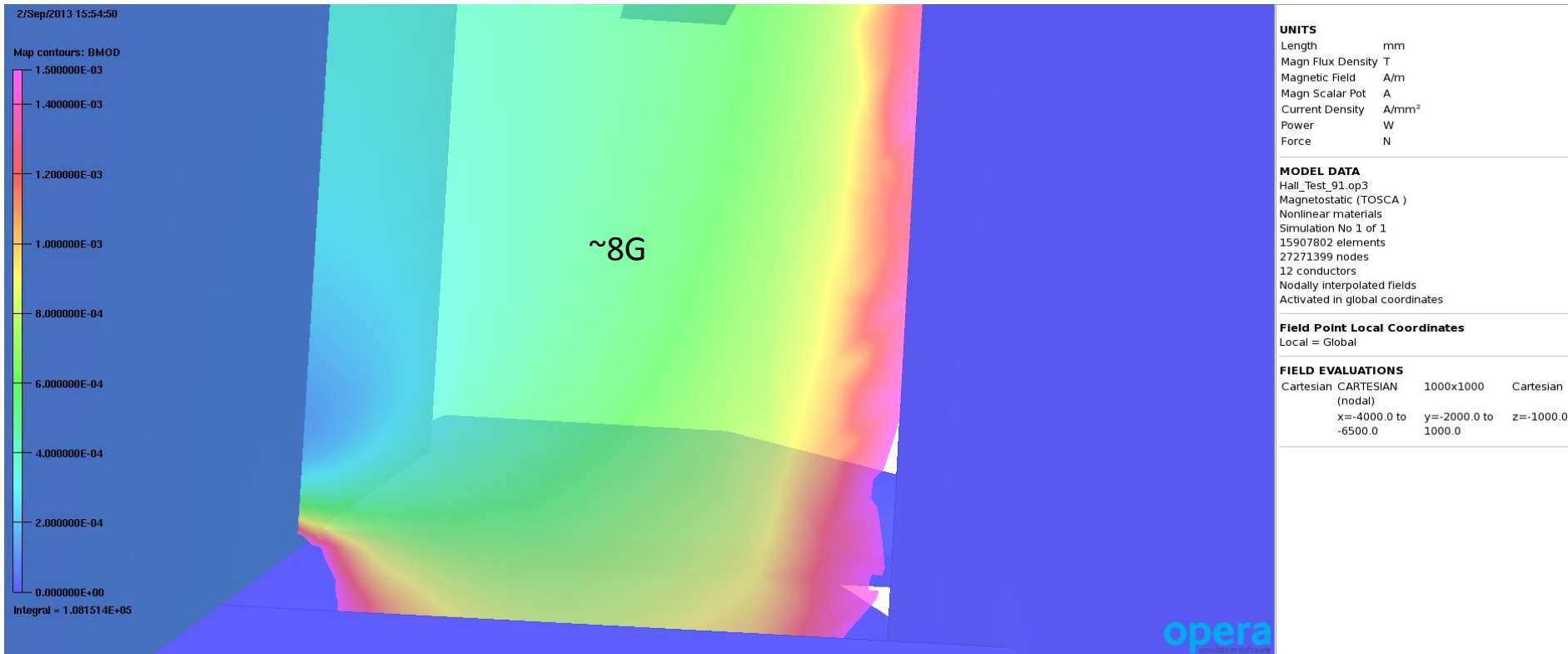
Local = Global

FIELD EVALUATIONS

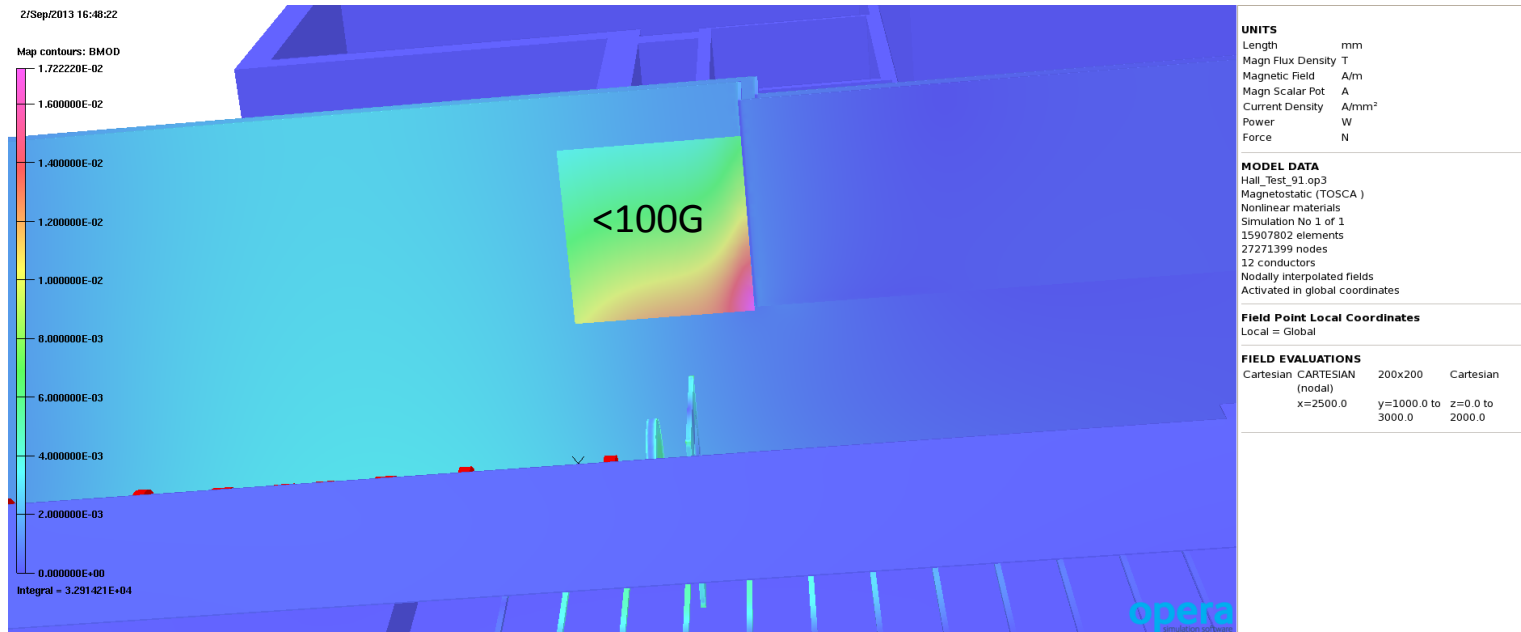
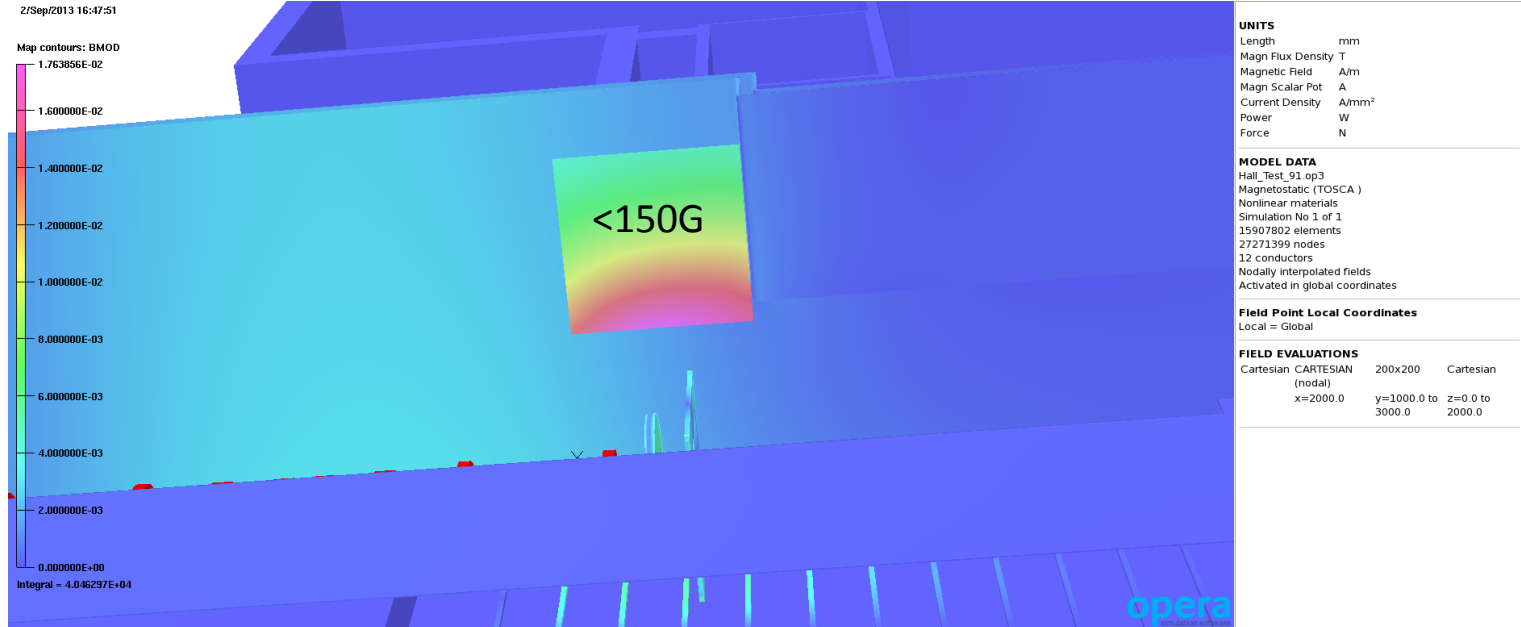
Cartesian (nodal)	CARTESIAN	200x200	Cartesian
x=-4500.0 to -6500.0	y=-2000.0 to 1000.0	z=-4500.0	

opera
simulation software

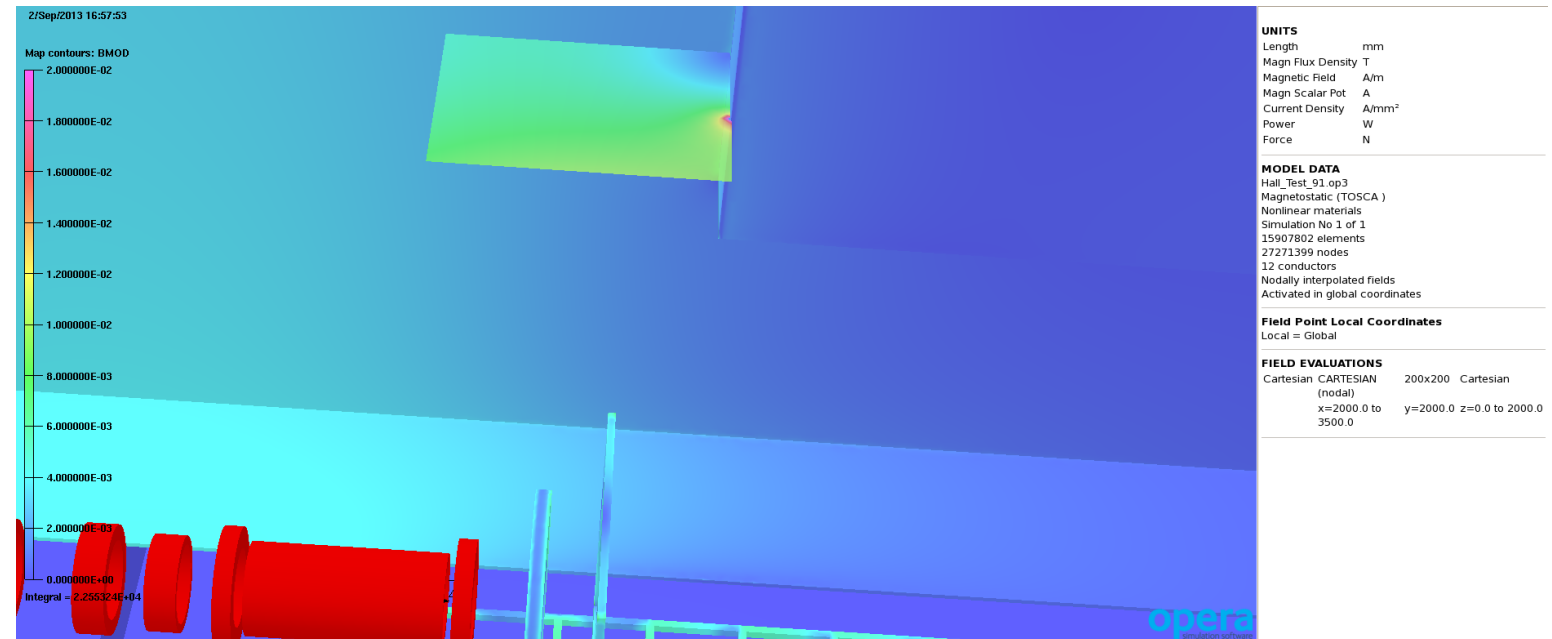
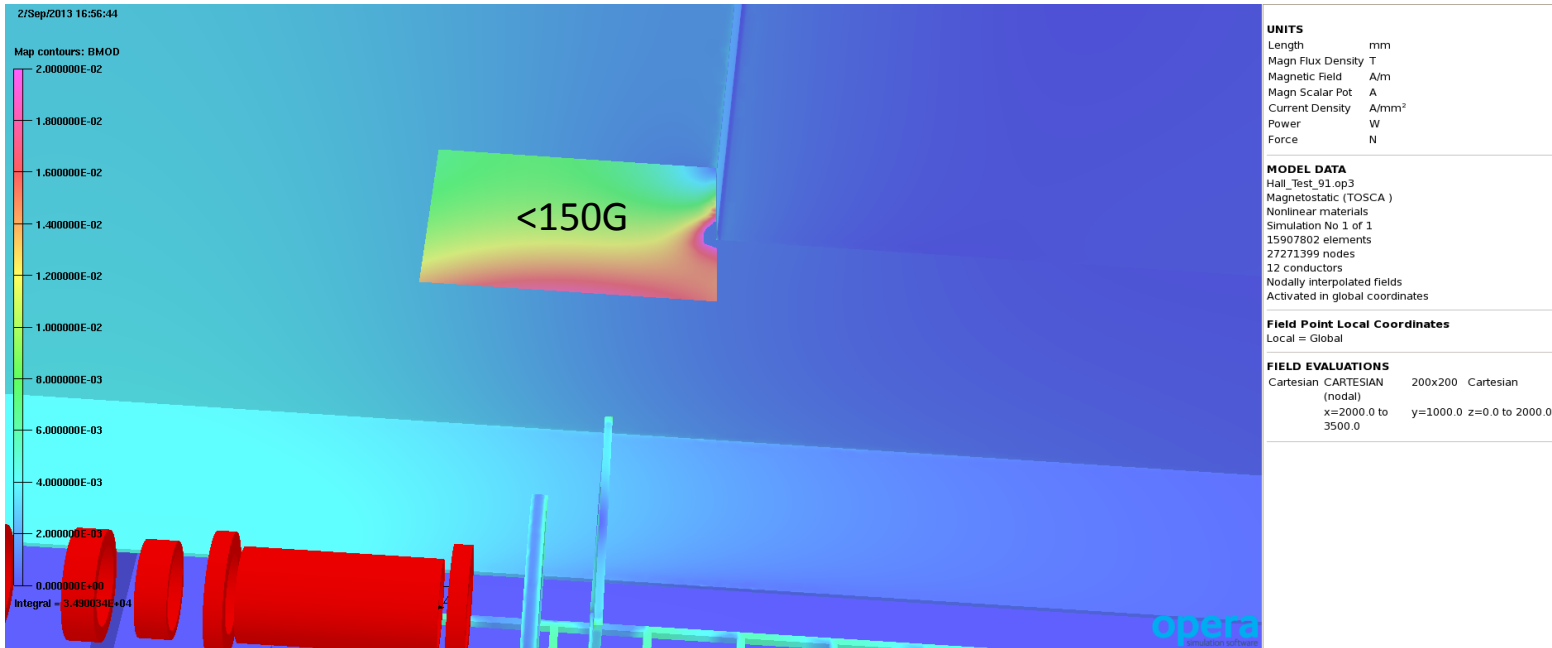
Downstream tracker rack behind NSW



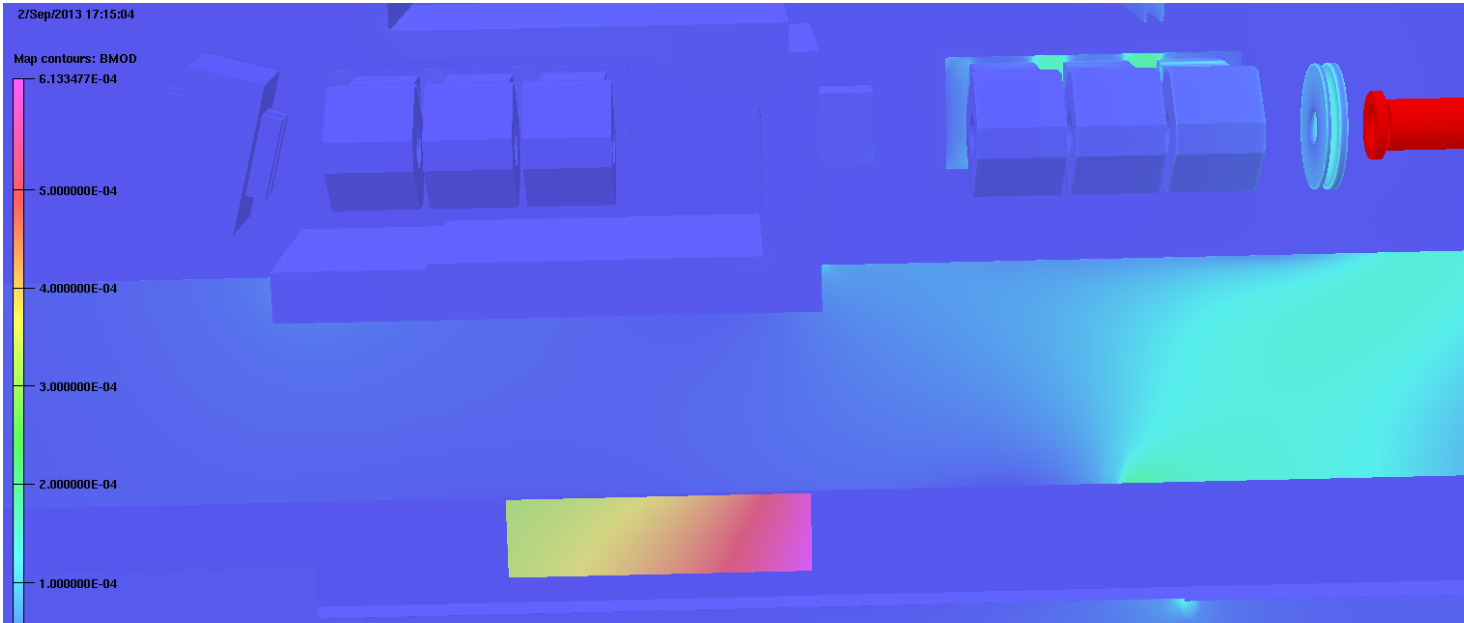
LH2 mezz equipment – patch in X plane



LH2 mezz equipment – patch in Y plane



Q6 to Q8 Power Supply area



UNITS

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

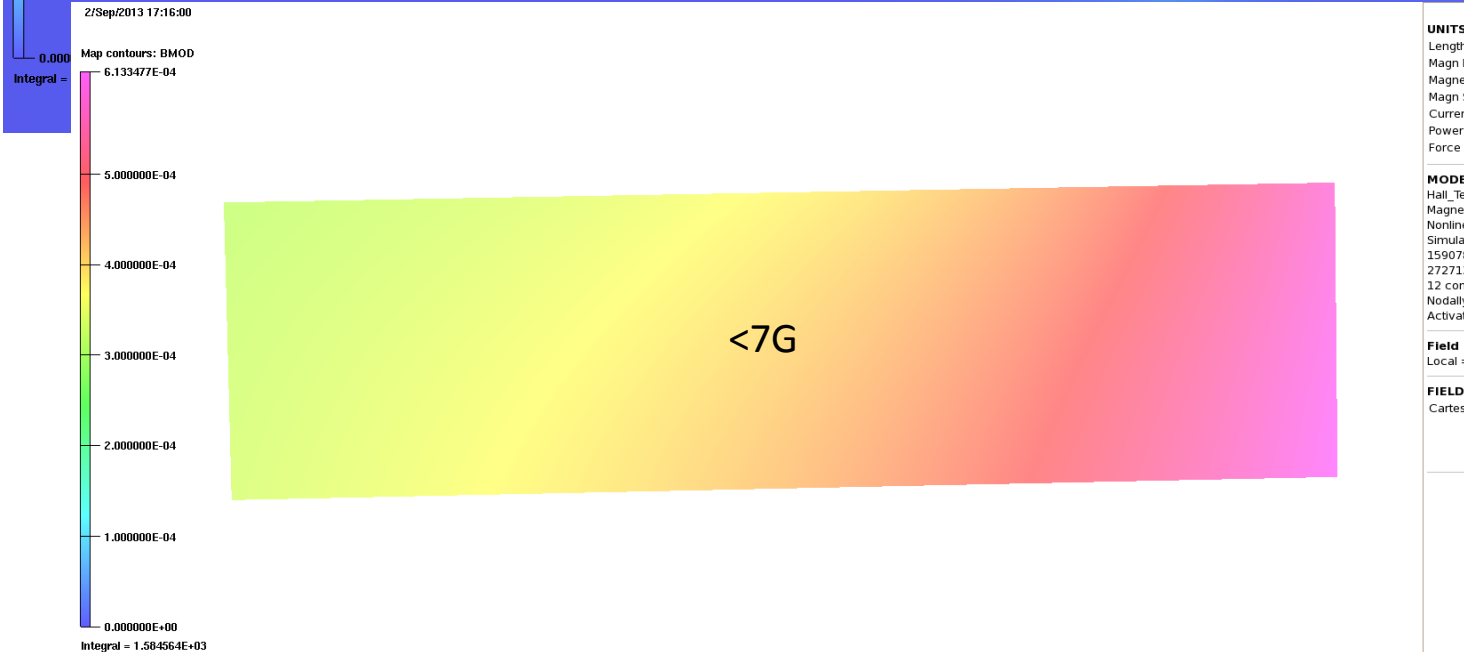
MODEL DATA

Hall_Test_91.op3
 Magnetostatic (TOSCA)
 Nonlinear materials
 Simulation No 1 of 1
 15907802 elements
 27271399 nodes
 12 conductors
 Nodally interpolated fields
 Activated in global coordinates

Field Point Local Coordinates
 Local = Global

FIELD EVALUATIONS

Cartesian	CARTESIAN	200x200	Cartesian (nodal)
x=-4400.0 to -5400.0	y=0.0	z=-12750.0 to -16500.0	



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

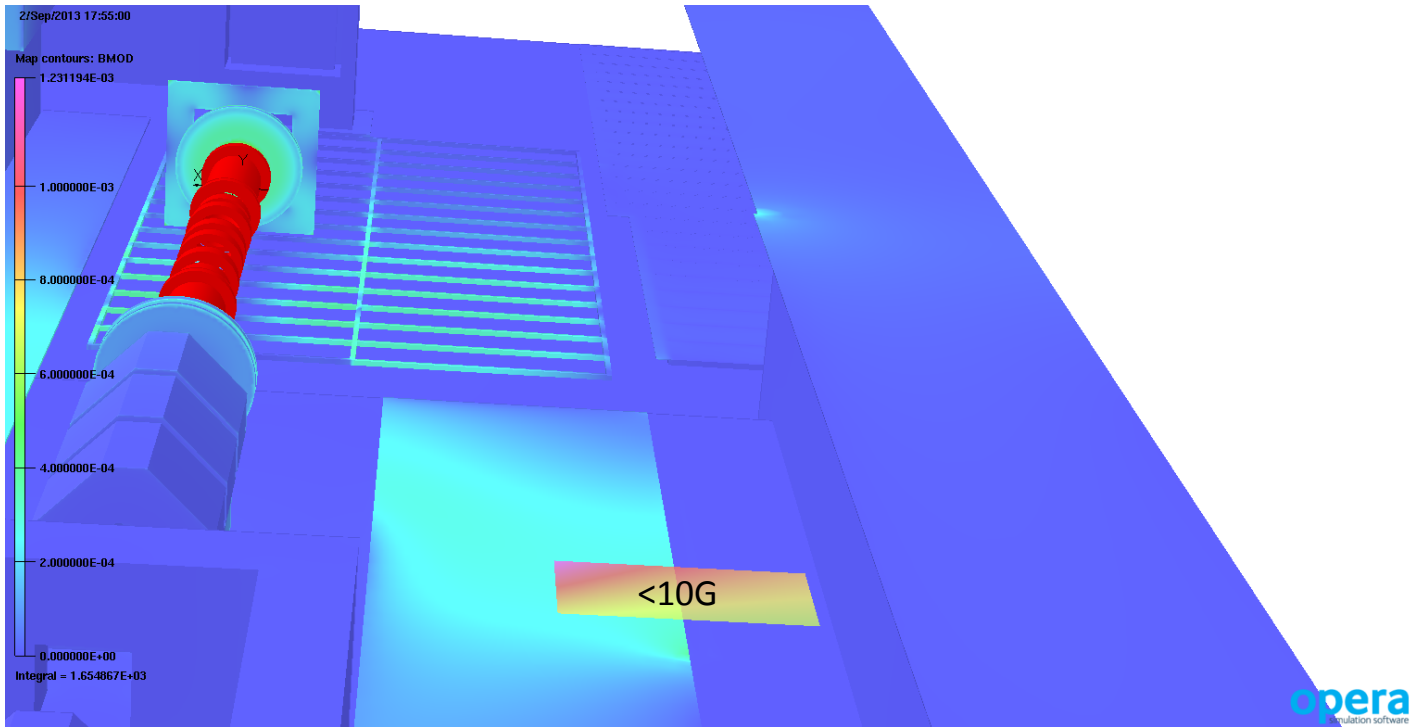
Hall_Test_91.op3
 Magnetostatic (TOSCA)
 Nonlinear materials
 Simulation No 1 of 1
 15907802 elements
 27271399 nodes
 12 conductors
 Nodally interpolated fields
 Activated in global coordinates

Field Point Local Coordinates
 Local = Global

FIELD EVALUATIONS

Cartesian	CARTESIAN	200x200	Cartesian (nodal)
x=-4400.0 to -5400.0	y=0.0	z=-12750.0 to -16500.0	

Trench access and PPS Mag switch



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_91.op3
Magnetostatic (TOSCA)
Nonlinear materials
Simulation No 1 of 1
15907802 elements
27271399 nodes
12 conductors
Nodally interpolated fields
Activated in global coordinates

Field Point Local Coordinates
Local = Global

FIELD EVALUATIONS
Cartesian CARTESIAN 200x200 Cartesian
(nodal)
x=-3400.0 to y=330.0 z=-11250.0 to
-5400.0 -12250.0

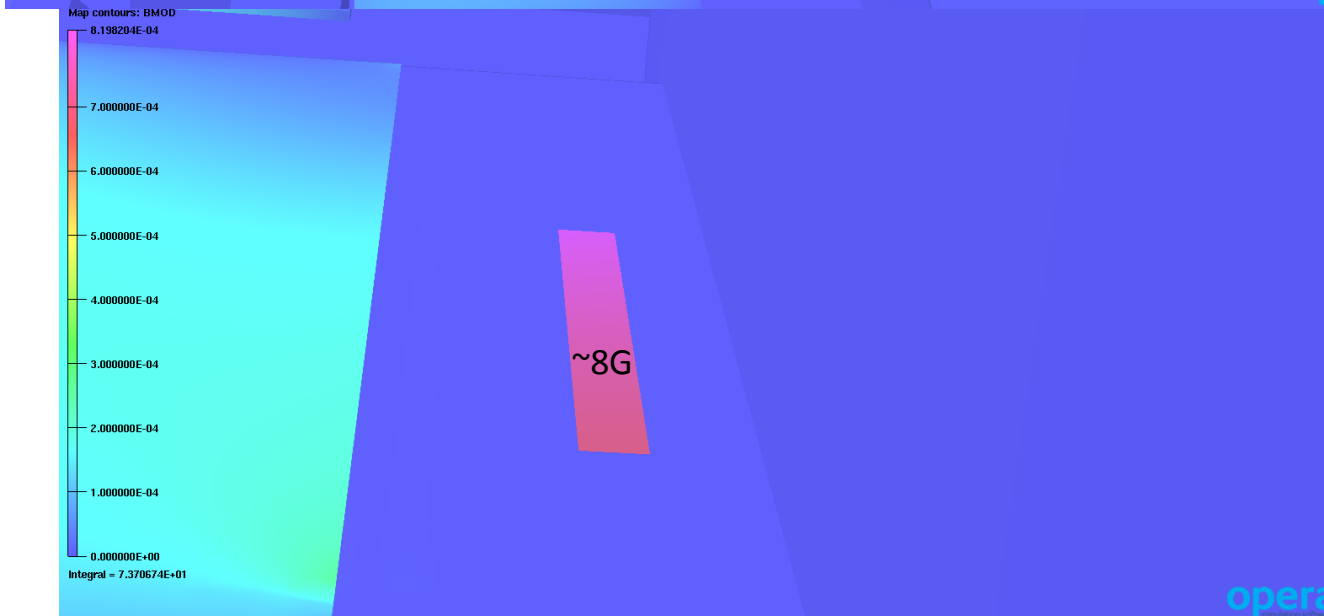
Magn Flux Density T

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

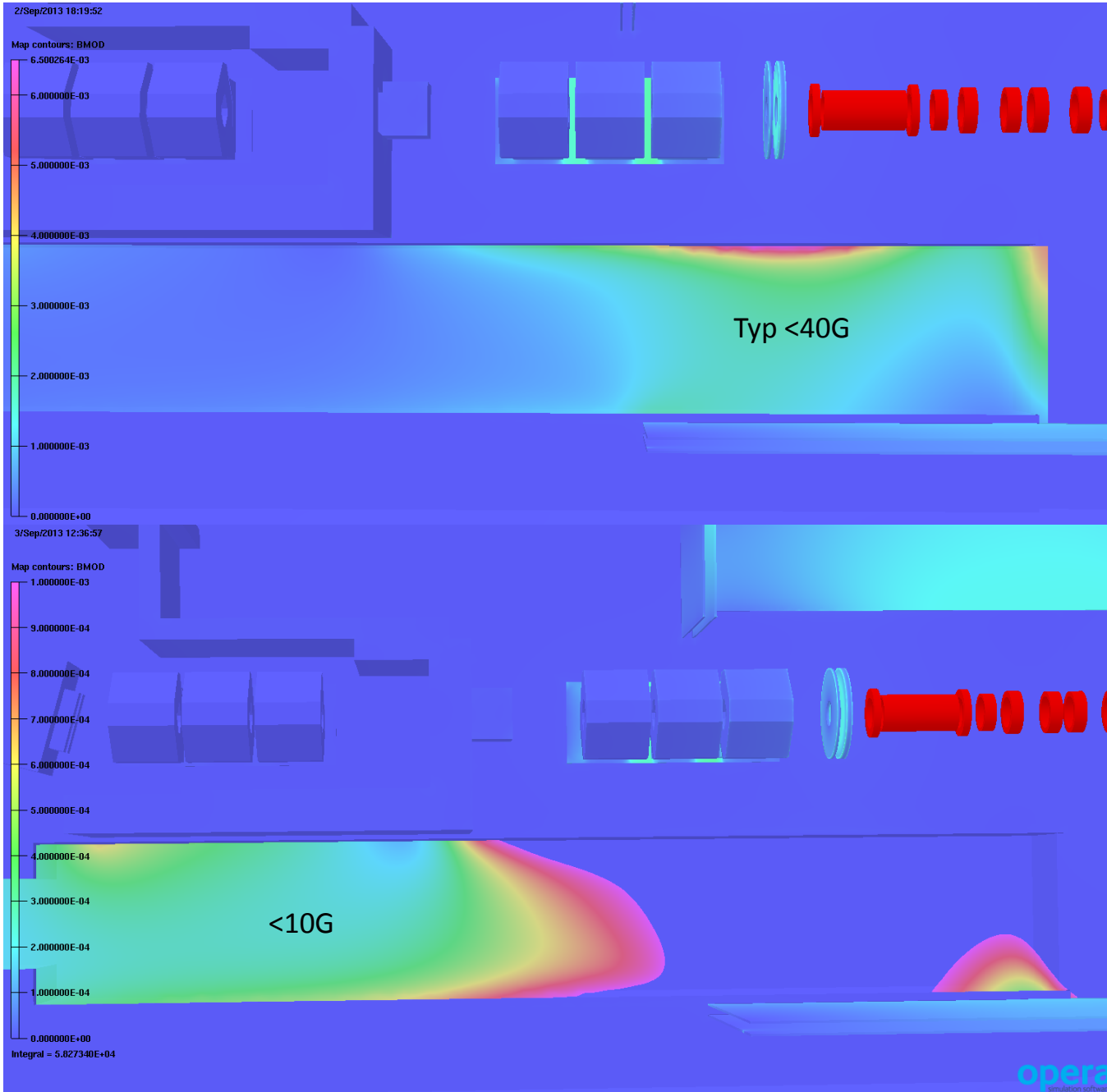
MODEL DATA
Hall_Test_91.op3
Magnetostatic (TOSCA)
Nonlinear materials
Simulation No 1 of 1
15907802 elements
27271399 nodes
12 conductors
Nodally interpolated fields
Activated in global coordinates

Field Point Local Coordinates
Local = Global

FIELD EVALUATIONS
Cartesian CARTESIAN 200x200 Cartesian
(nodal)
x=-5300.0 to y=330.0 z=-11250.0 to
-5400.0 -12250.0



Trench just below ground level



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_91.op3
Magnetostatic (TOSCA)
Nonlinear materials
Simulation No 1 of 1
15907802 elements
27271399 nodes
12 conductors
Nodally interpolated fields
Activated in global coordinates

Field Point Local Coordinates

Local = Global

FIELD EVALUATIONS

Cartesian	CARTESIAN	200x200	Cartesian
(nodal)			
x=-2000.0 to	y=-2000.0	z=-2000.0 to	
-5000.0		-23500.0	

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_91.op3
Magnetostatic (TOSCA)
Nonlinear materials
Simulation No 1 of 1
15907802 elements
27271399 nodes
12 conductors
Nodally interpolated fields
Activated in global coordinates

Field Point Local Coordinates

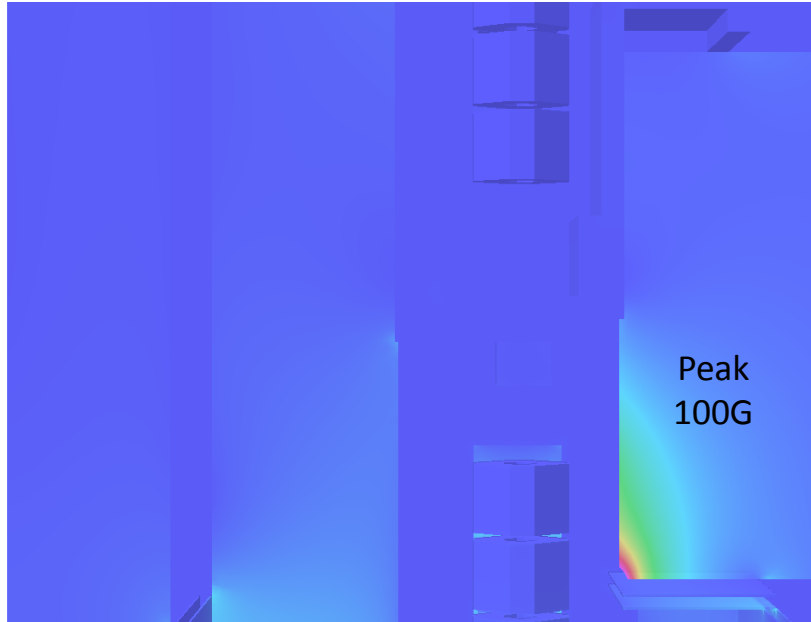
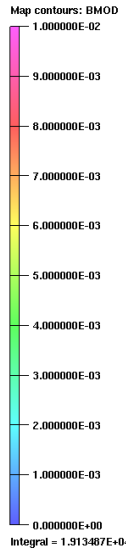
Local = Global

FIELD EVALUATIONS

Cartesian	CARTESIAN	200x200	Cartesian
(nodal)			
x=-2000.0 to	y=-2000.0	z=-2000.0 to	
-5000.0		-23500.0	

SE corner under Linde Fridge

29/Aug/2013 18:11:09



UNITS
 Length mm
 Magn Flux Density T
 Magnetic Field A/m
 Magn Scalar Pot A
 Current Density A/mm²
 Power W
 Force N

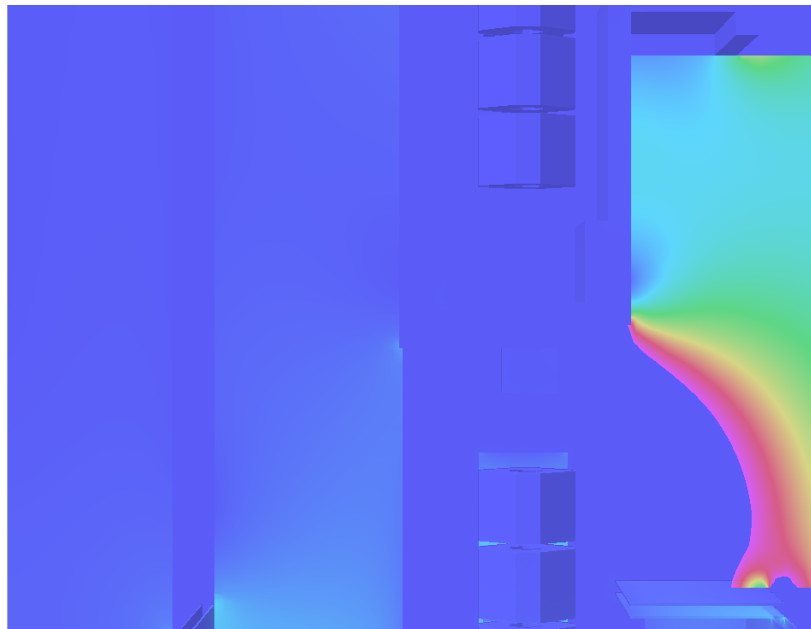
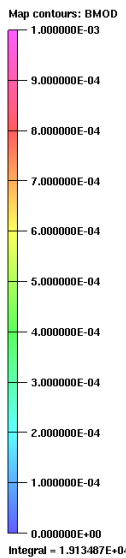
MODEL DATA
 Hall_Test_91.op3
 Magnetostatic (TOSCA)
 Nonlinear materials
 Simulation No 1 of 1
 15907802 elements
 27271399 nodes
 12 conductors
 Nodally interpolated fields
 Activated in global coordinates

Field Point Local Coordinates
 Local = Global

FIELD EVALUATIONS
 Cartesian CARTESIAN 100x100 Cartesian
 (nodal)
 x=1500.0 to y=0.0 z=-9000.0 to
 4500.0 -17000.0

opera
simulation software

29/Aug/2013 18:11:55



UNITS
 Length mm
 Magn Flux Density T
 Magnetic Field A/m
 Magn Scalar Pot A
 Current Density A/mm²
 Power W
 Force N

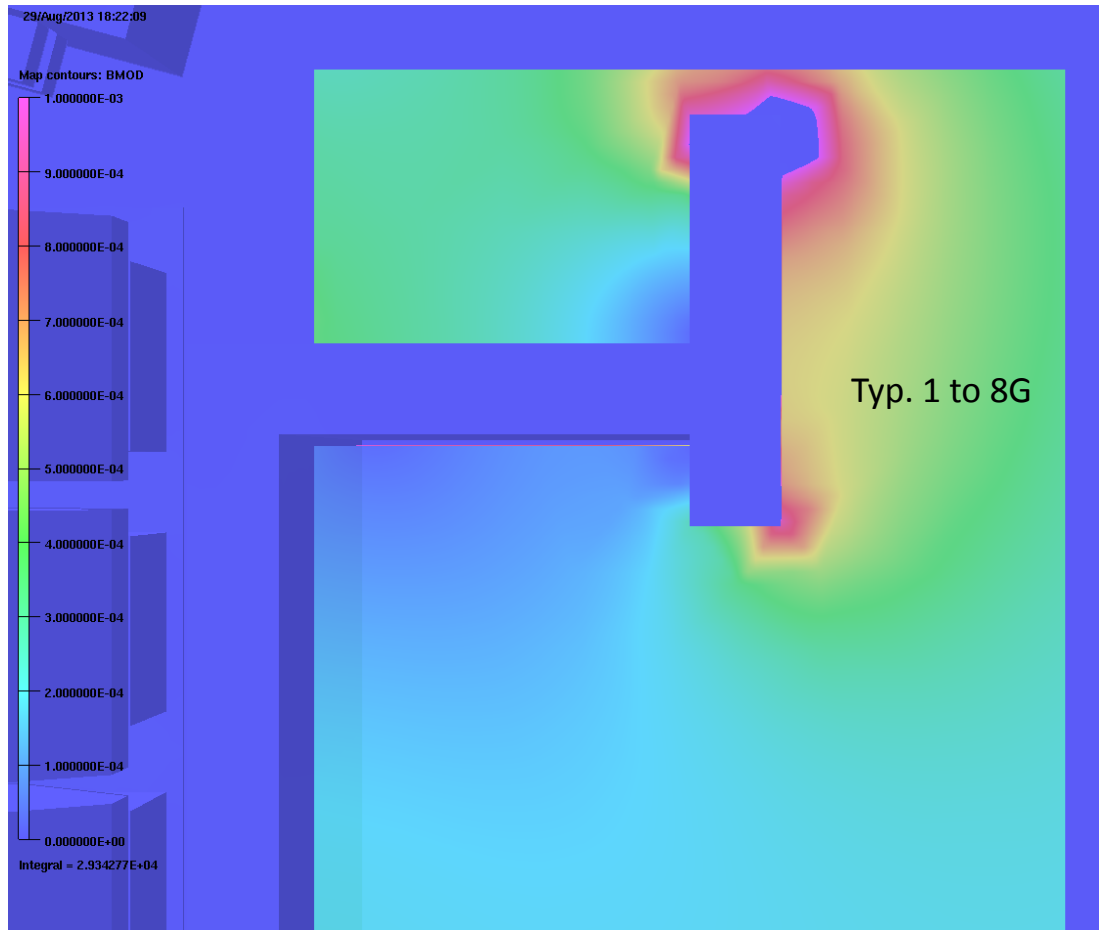
MODEL DATA
 Hall_Test_91.op3
 Magnetostatic (TOSCA)
 Nonlinear materials
 Simulation No 1 of 1
 15907802 elements
 27271399 nodes
 12 conductors
 Nodally interpolated fields
 Activated in global coordinates

Field Point Local Coordinates
 Local = Global

FIELD EVALUATIONS
 Cartesian CARTESIAN 100x100 Cartesian
 (nodal)
 x=1500.0 to y=0.0 z=-9000.0 to
 4500.0 -17000.0

opera
simulation software

DSA entrance area – PPS equipment



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_91.op3
Magnetostatic (TOSCA)
Nonlinear materials
Simulation No 1 of 1
15907802 elements
27271399 nodes
12 conductors
Nodally interpolated fields
Activated in global coordinates

Field Point Local Coordinates

Local = Global

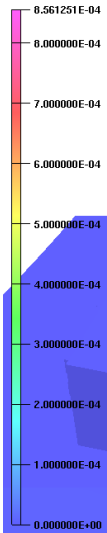
FIELD EVALUATIONS

Cartesian	CARTESIAN	200x200	Cartesian
	(nodal)		
	x=1500.0 to	y=0.0	z=-9000.0 to
	4500.0		-19000.0

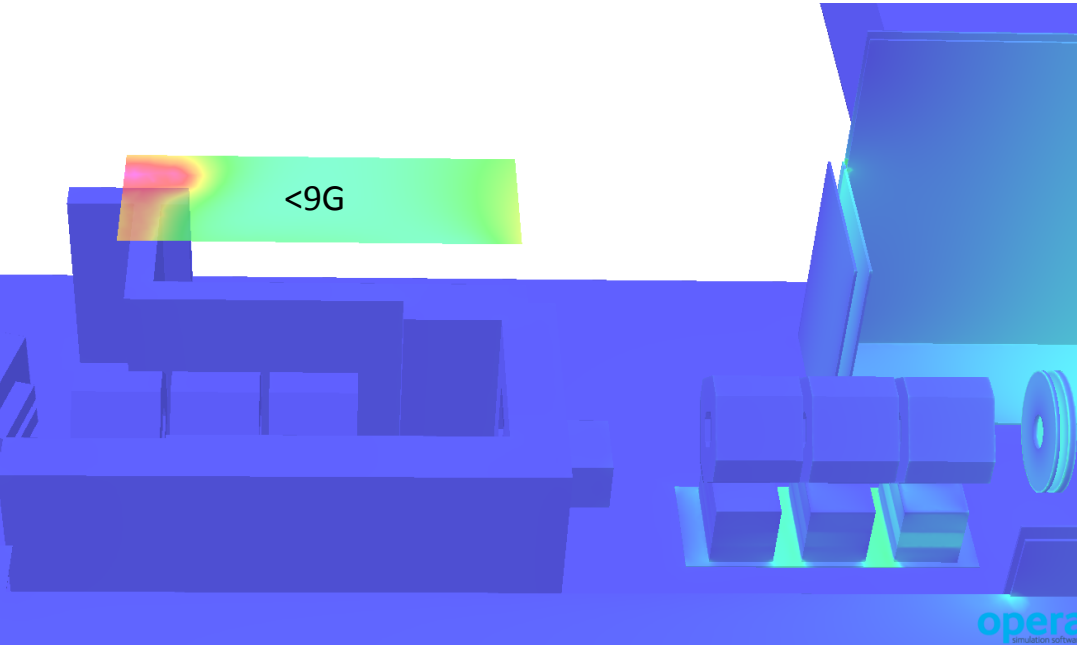
Linde Fridge high in SE corner

2/Sep/2013 16:18:52

Map contours: BMOD



Integral = 2.361095E+03



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_91.op3
Magnetostatic (TOSCA)
Nonlinear materials
Simulation No 1 of 1
15907802 elements
27271399 nodes
12 conductors
Nodally interpolated fields
Activated in global coordinates

Field Point Local Coordinates

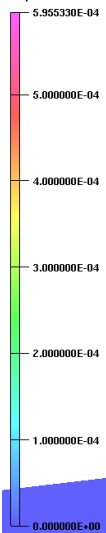
Local = Global

FIELD EVALUATIONS

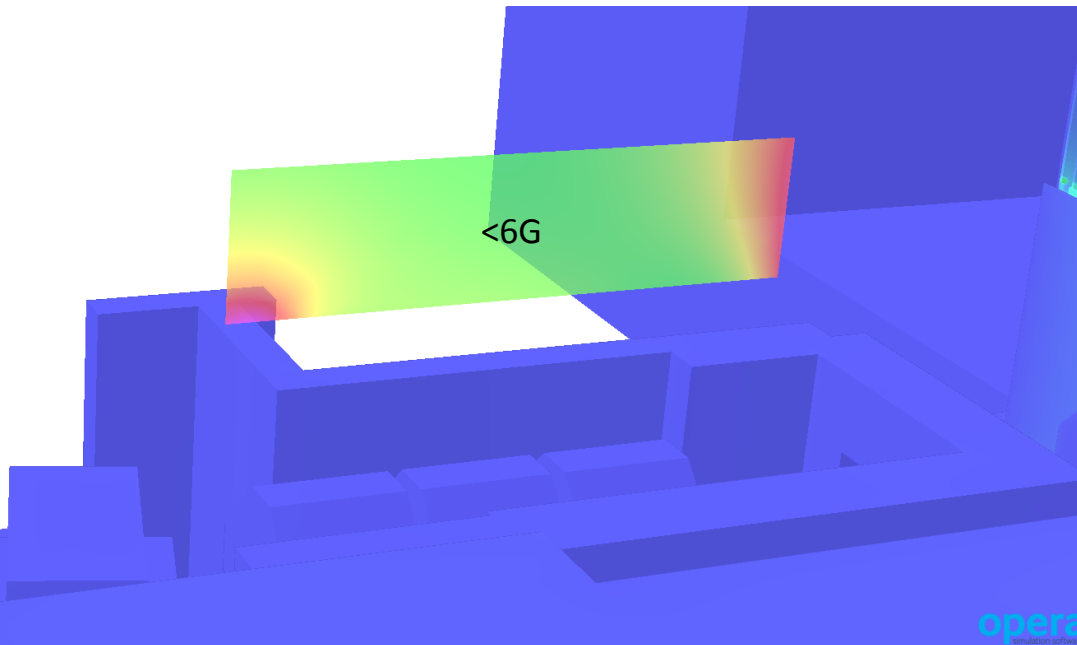
Cartesian CARTESIAN 200x200 Cartesian
(nodal)
x=2000.0 to y=1250.0 z=-13000.0 to
3750.0 -18000.0

2/Sep/2013 16:27:13

Map contours: BMOD



Integral = 1.858222E+03



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_91.op3
Magnetostatic (TOSCA)
Nonlinear materials
Simulation No 1 of 1
15907802 elements
27271399 nodes
12 conductors
Nodally interpolated fields
Activated in global coordinates

Field Point Local Coordinates

Local = Global

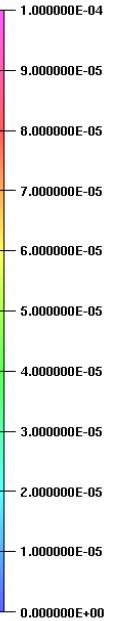
FIELD EVALUATIONS

Cartesian CARTESIAN 200x200 Cartesian
(nodal)
x=2000.0 y=2500.0 to z=-13000.0 to
1250.0 -18000.0

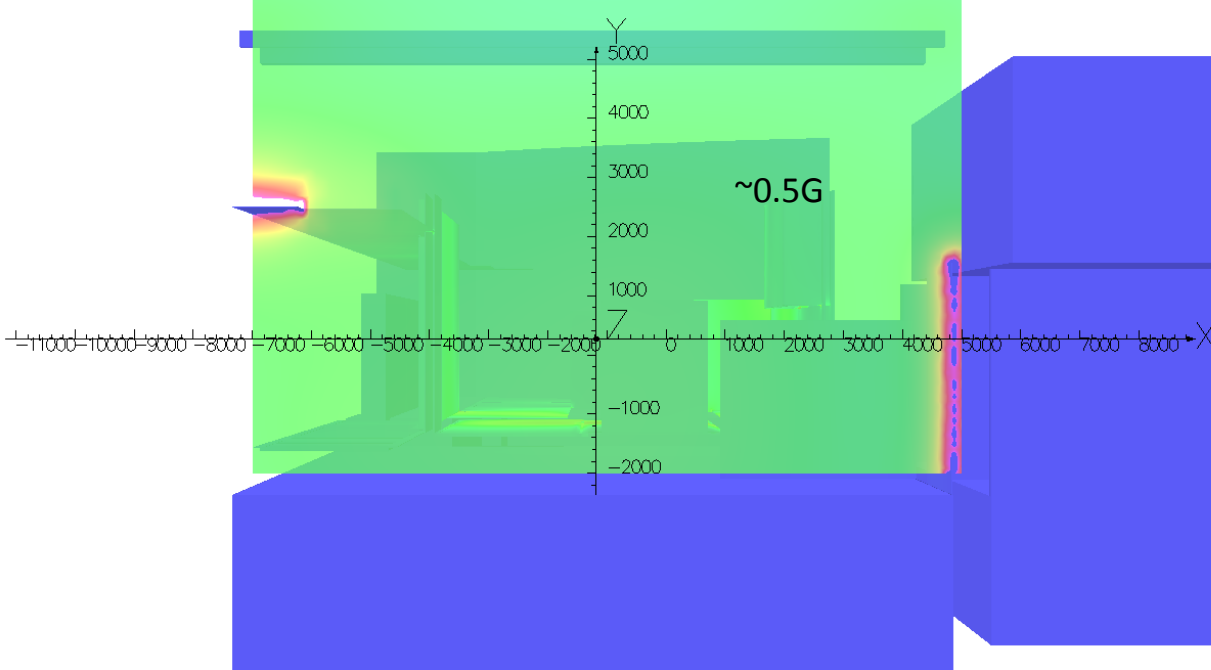
Looking through west wall from outside

29/Aug/2013 18:01:11

Map contours: BMOD



Integral = 3.891024E+03



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_91.op3
Magnetostatic (TOSCA)
Nonlinear materials
Simulation No 1 of 1
15907802 elements
27271399 nodes
12 conductors
Nodally interpolated fields
Activated in global coordinates

Field Point Local Coordinates

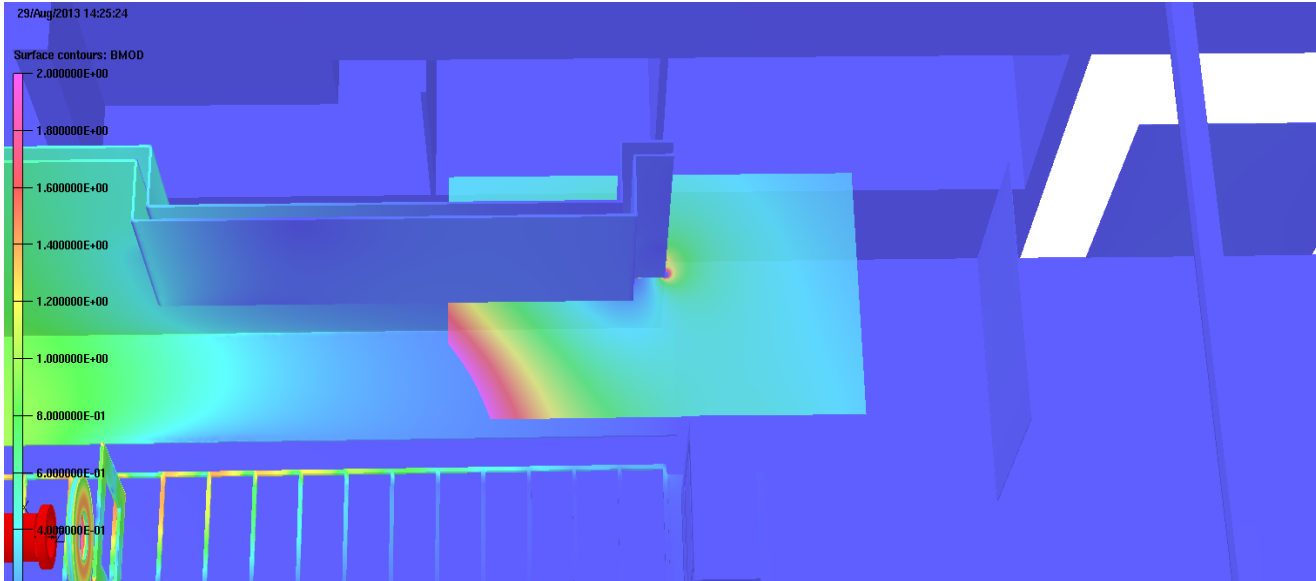
Local = Global

FIELD EVALUATIONS

Cartesian	CARTESIAN	100x100	Cartesian
(nodal)			
	x=5000.0 to -7000.0	y=-2000.0 to 6000.0	z=19720.0



HV rack under LH2 mezz stairs



UNITS

Length mm
Magn Flux Density T
Magnetic Field A/m
Magn Scalar Pot A
Current Density A/mm²
Power W
Force N

MODEL DATA

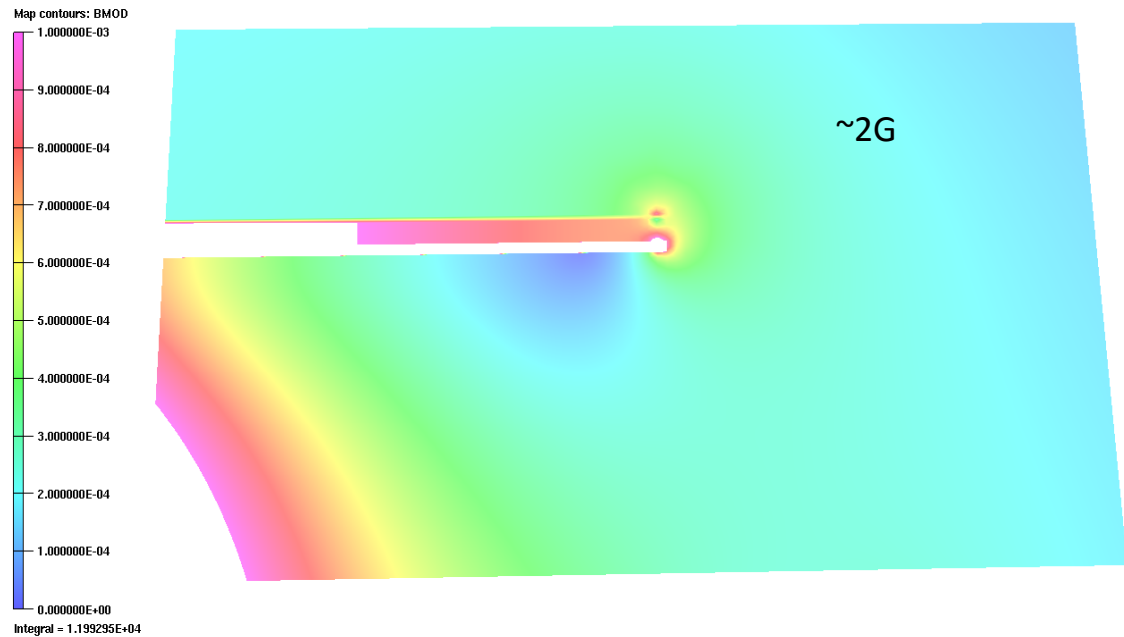
Hall_Test_91.op3
Magnetostatic (TOSCA)
Nonlinear materials
Simulation No 1 of 1
15907802 elements
27271399 nodes
12 conductors
Nodally interpolated fields
Activated in global coordinates

Field Point Local Coordinates
Local = Global

FIELD EVALUATIONS

Cartesian	CARTESIAN	100x100 Cartesian
(nodal)		
x=1500.0 to 5000.0	y=0.0	z=6000.0 to 12000.0

29/Aug/2013 14:26:10



UNITS

Length mm
Magn Flux Density T
Magnetic Field A/m
Magn Scalar Pot A
Current Density A/mm²
Power W
Force N

MODEL DATA

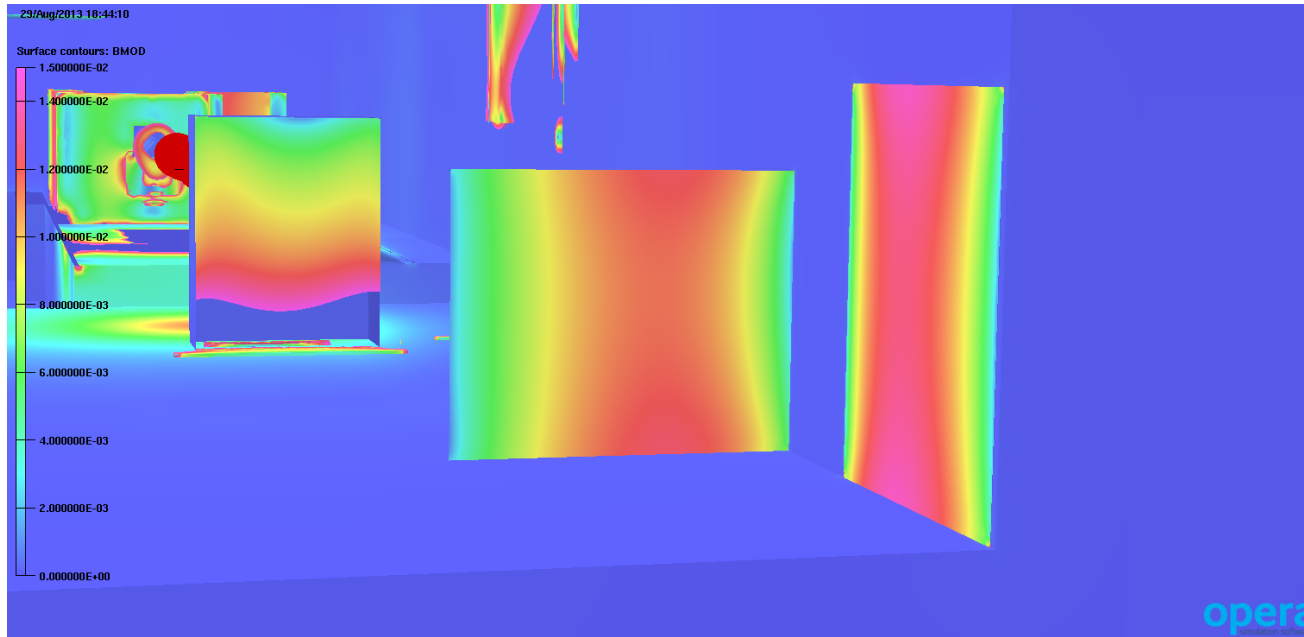
Hall_Test_91.op3
Magnetostatic (TOSCA)
Nonlinear materials
Simulation No 1 of 1
15907802 elements
27271399 nodes
12 conductors
Nodally interpolated fields
Activated in global coordinates

Field Point Local Coordinates
Local = Global

FIELD EVALUATIONS

Cartesian	CARTESIAN	100x100 Cartesian
(nodal)		
x=1500.0 to 5000.0	y=0.0	z=6000.0 to 12000.0

Small steel wall by entry door



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_91.op3
Magnetostatic (TOSCA)
Nonlinear materials
Simulation No 1 of 1
15907802 elements
27271399 nodes
12 conductors
Nodally interpolated fields
Activated in global coordinates

Field Point Local Coordinates

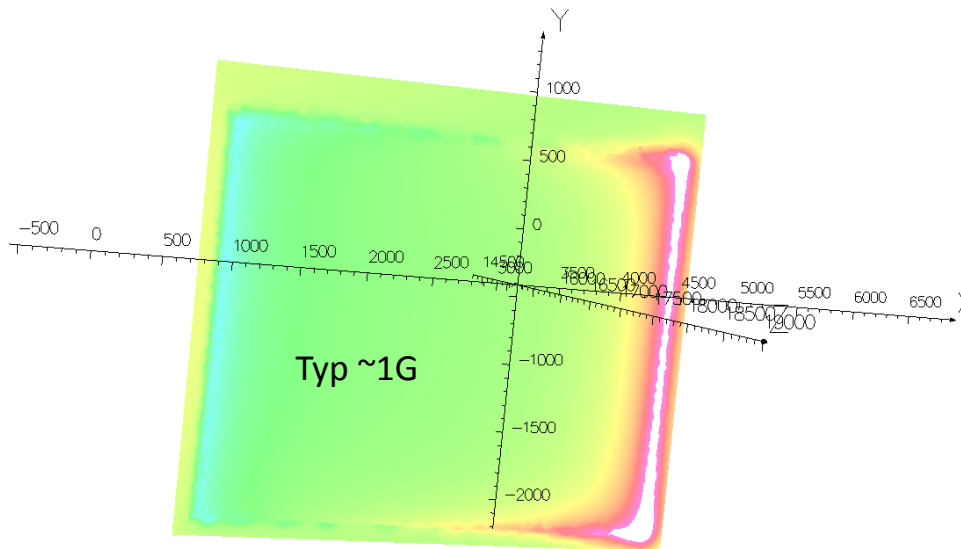
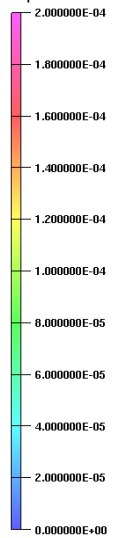
Local = Global

FIELD EVALUATIONS

Cartesian	CARTESIAN	200x200	Cartesian
(nodal)			
x=4600.0	y=-2000.0 to 6000.0		z=14000.0 to 20000.0

29/Aug/2013 18:50:06

Map 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_91.op3
Magnetostatic (TOSCA)
Nonlinear materials
Simulation No 1 of 1
15907802 elements
27271399 nodes
12 conductors
Nodally interpolated fields
Activated in global coordinates

Field Point Local Coordinates

Local = Global

FIELD EVALUATIONS

Cartesian	CARTESIAN	200x200	Cartesian
(nodal)			
x=1000.0 to 5000.0	y=-2500.0 to 1000.0		z=14300.0