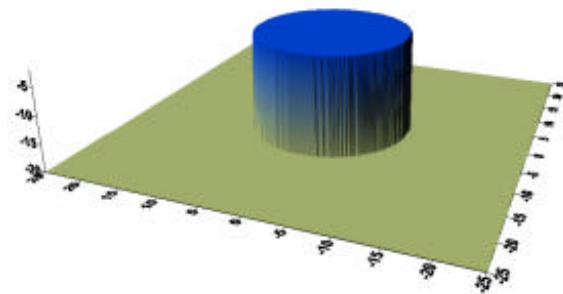
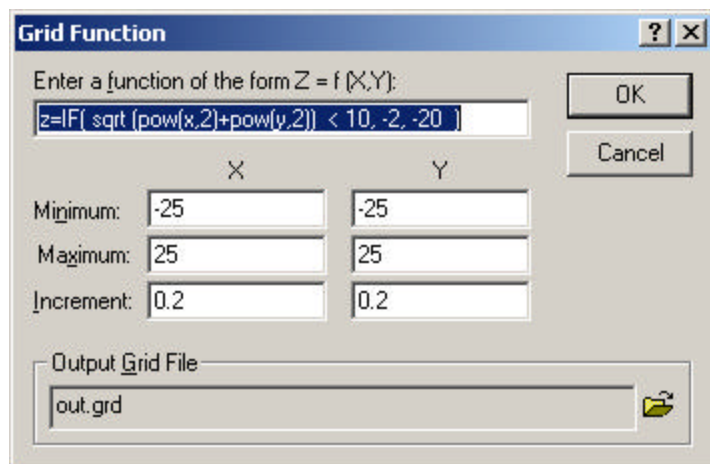


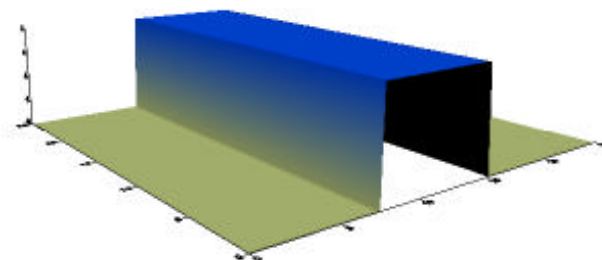
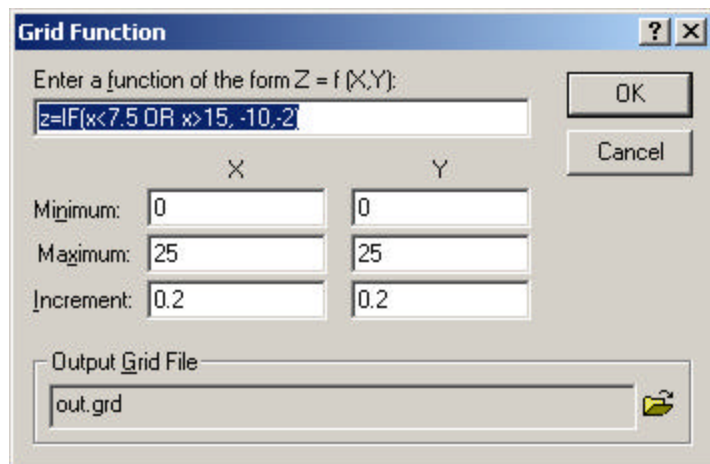
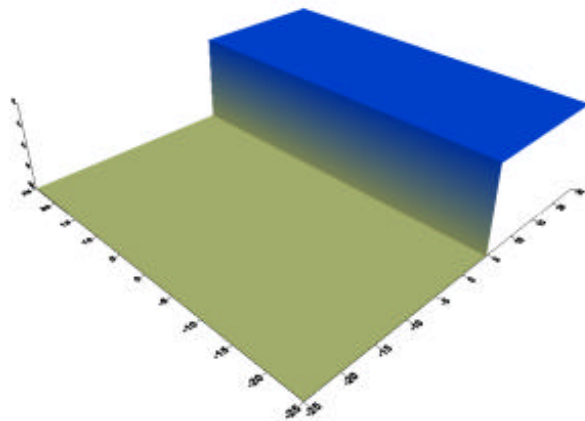
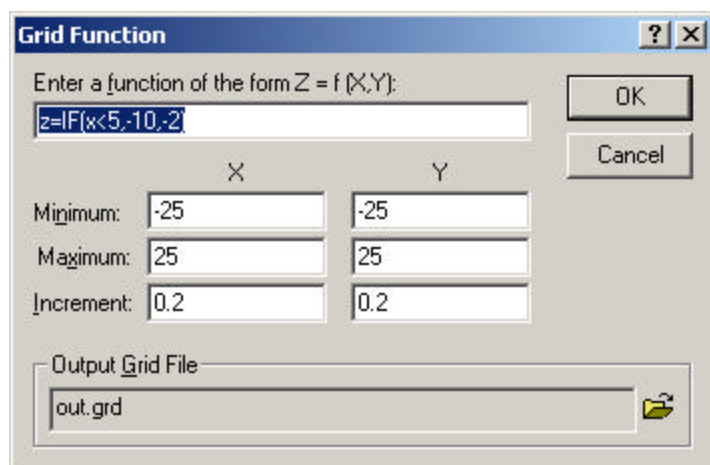
Models for magnetic modeling using Surfer's Grid/Function command

To make a disk in Surfer's (x,y,z) coordinates which rises above a base level:

$$z = \text{IF}(\text{sqrt}(\text{pow}(x,2) + \text{pow}(y,2)) < \text{radius}, \text{top_level}, \text{base_level})$$



You'll want to add some noise using Excel or Surfer's worksheet.



Grid Function [?] [X]

Enter a function of the form $Z = f(X,Y)$:

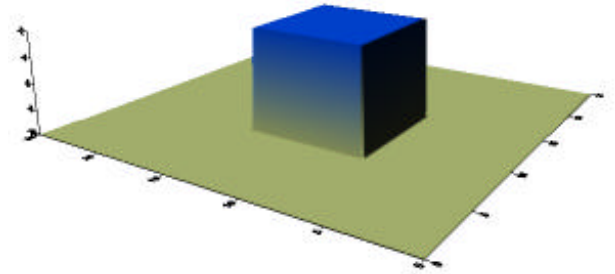
$z = \text{IF}([x < 7.5 \text{ OR } x > 15], -10, \text{IF}(y < 7.5 \text{ OR } y > 15, -10, -2))$

OK Cancel

	X	Y
Minimum:	0	0
Maximum:	25	25
Increment:	0.2	0.2

Output Grid File

out.grd



Grid Function [?] [X]

Enter a function of the form $Z = f(X,Y)$:

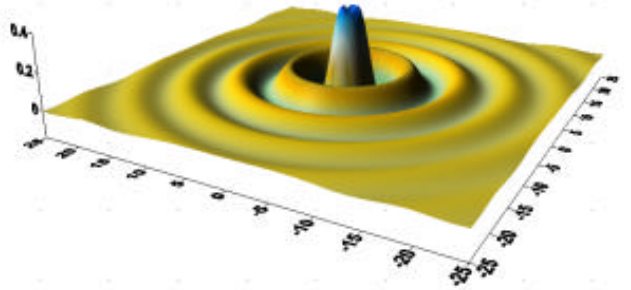
$z = \frac{\sin(1.05 \cdot \sqrt{\text{pow}(x,2) + \text{pow}(y,2)})}{1.01 + \sqrt{\text{pow}(x,2) + \text{pow}(y,2)}}$

OK Cancel

	X	Y
Minimum:	-25	-25
Maximum:	25	25
Increment:	0.5	0.5

Output Grid File

out.grd



Grid Function [?] [X]

Enter a function of the form $Z = f(X,Y)$:

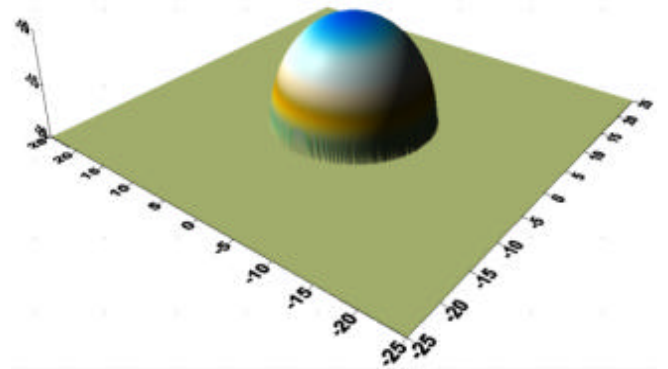
$z = \text{if}(\sqrt{\text{pow}(x,2) + \text{pow}(y,2)} > 10, 0, \sqrt{\text{fabs}(100 - (\text{pow}(x,2) + \text{pow}(y,2)))})$

OK Cancel

	X	Y
Minimum:	-25	-25
Maximum:	25	25
Increment:	0.2	0.2

Output Grid File

out.grd



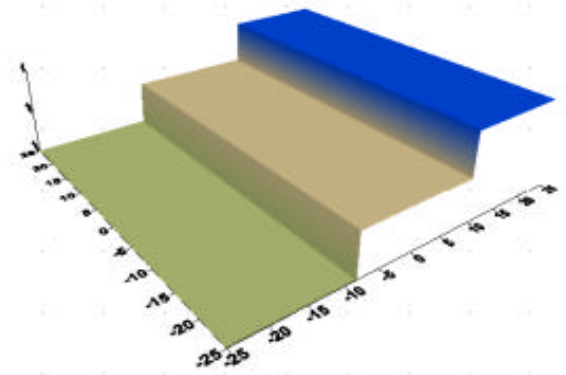
Grid Function [?] [X]

Enter a function of the form $Z = f(X,Y)$:

OK Cancel

	X	Y
Minimum:	<input type="text" value="-25"/>	<input type="text" value="-25"/>
Maximum:	<input type="text" value="25"/>	<input type="text" value="25"/>
Increment:	<input type="text" value="0.2"/>	<input type="text" value="0.2"/>

Output Grid File



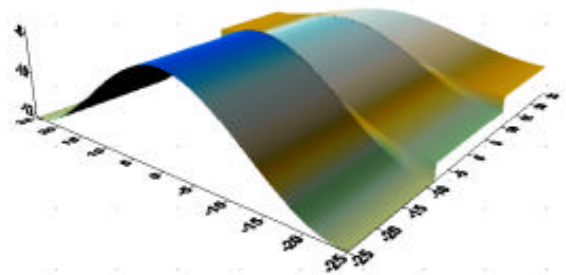
Grid Function [?] [X]

Enter a function of the form $Z = f(X,Y)$:

OK Cancel

	X	Y
Minimum:	<input type="text" value="-25"/>	<input type="text" value="-25"/>
Maximum:	<input type="text" value="25"/>	<input type="text" value="25"/>
Increment:	<input type="text" value="0.2"/>	<input type="text" value="0.2"/>

Output Grid File



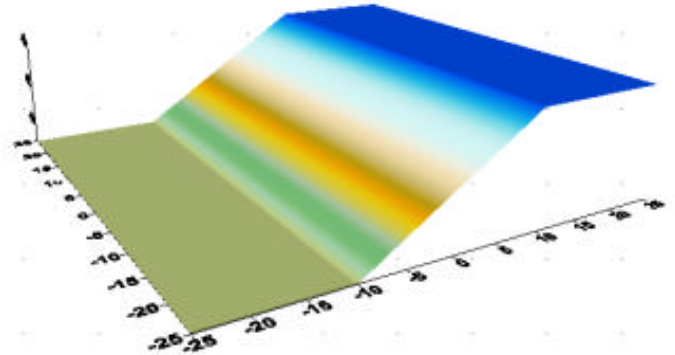
Grid Function [?] [X]

Enter a function of the form $Z = f(X,Y)$:

OK Cancel

	X	Y
Minimum:	<input type="text" value="-25"/>	<input type="text" value="-25"/>
Maximum:	<input type="text" value="25"/>	<input type="text" value="25"/>
Increment:	<input type="text" value="0.2"/>	<input type="text" value="0.2"/>

Output Grid File



Sometimes it is easier to build the structure in Excel, and then save those as Surfer grids; see:

http://www.umt.edu/geosciences/faculty/sheriff/Equipment_Techniques_and_Cheats/surfergrids.pdf