

2005-01-05 FUR CSE464, Hints for MaxwellSV use in HW0.5

Before starting MaxwellSV, create a subdirectory in your home directory, all work from MaxwellSV will be saved there.

Start MaxwellSV, give the directory you have created, and start a new project.  
Type any notes you wish in the notes section, and EXIT

Solver

DC Conduction

Define Model

Draw Model

Drawing Size

Set size to -150, -150, 150, 150 to get 300 by 300 mm plane

Model

Window

Change View

Zoom In

Left click over corners of desired window and click again

Window

Grid

Set to 1mm (note, cursor position is shown in lower left window)

Object (to draw a circle representing one via)

Circle

2-point

left click at desired center, then at desired edge

OK

OK

(draw two circles, one for each via)

File

Save

File

Exit

Setup Materials

Select Background (set background to copper)

Material

Copper

Assign

Select Object1 (set first via to perfect conductor)

Material

perf\_conductor

Assign

Select Object2 (set second via to perfect conductor)

Material

perf\_conductor

Assign

Exit and save changes

Setup Boundaries (set one via to be 1V signal, other to be 0V)

Edit

Select

Object

By Clicking (left click over via to select, right click to terminate selection)

Assign

Source

Solid

Value set to 1 (volts)

Assign

Repeat to select second object and assign 0 to it

File

Exit Yes

Setup Exec Parameters (request resistance matrix solution with  
vias set to signal and ground)

Matrix

Single Select

Click on object1

check include in matrix

signal line

assign

Click on object2

check include in matrix

ground

assign

Exit

Yes

Solve (this may take a minute or two depending on load, progress is indicated)

After solve is complete:

Solutions

Matrix (this gives the value between vias, note that it is in S (conductance) per meter of thickness, our thickness is 18 um).