5.0 Geometry Files - Projection and Scaling of 2D and 3D Geometry files

Files: C:\Advanced SIMION Class\05. 2D and 3D Projections\2d3d lab

Inserting a Geometry File into Different Sized Arrays

The contents of a geometry file can be scaled to fit within arrays of different sizes. This lab shows how this is done

No After Installation Files Need to be Created

1. Remove all PAs From RAM
2. Use New to load intro01.gem from directory:
   Files: C:\Advanced SIMION Class\05. 2D and 3D Projections\2d3d lab
3. Examine the array with View and then Modify.
4. Click the GeomF button to access the geometry file development system.
6. Change the Scale panel from 1.0 (default) to 0.5 to re-scale the geometry definitions to the smaller potential array.
7. Click the Erase Entire PA button then click the Insert into PA button. You should now be looking at the halved scale potential array.
8. Look at the object in View.
9. Follow steps 4-8, changing the scale factor and using the x, y, and z panels to move the object around in the array. What happens if you displace it by 20 units in x?

Inserting a Geometry File into 2D and 3D arrays

The contents of a geometry file can be projected into 2D or 3D arrays, fill definitions must be consistent. This lab demonstrates typical issues.

1. Exit Modify and Remove all PAs from ram.
2. Use New to load intro01.gem from directory C:\….\2D3D lab
3. Go into Modify to access the geometry file development system screen.
4. Use Edit to access Edy, delete the " ; " comment from line 2 and insert a " ; " at the beginning of line 1.
5. Rename the file 3Dcircle.gem,(keystrokes: **Esc S 3Dcircle.gem** and press **Enter**).
6. Alt-tab back to the geometry development screen, choose quit, then quit out of Modify, and remove all PAs from Ram.

7. Use New to load the geometry file 3Dcircle.GEM.
8. Go into View. Now what do you see? Why?
9. Go into Modify, then to the geometry file development screen.
10. Use Edit to get to the 3Dcircle.gem file
11. Replace the circle(0,0, 50) command with sphere(0,0,0,50) then rename and save the file as 3Dsphere.GEM (keystrokes: **Esc N 3Dsphere.GEM, Enter, Esc S Enter**), Alt-tab back to geometry file development screen, use select to choose 3Dsphere.gem, click the Erase Entire PA button then click the Insert into PA button.
12. Look at the array in Modify (XYZ view). Now look at it in View.

13. use the locate panels to offset the object (try x=20). Click the Erase Entire PA button then click the Insert into PA button. Go into View. What happened? Why?

14. Exit View and remove all PAs from Ram.
15. Using New load the geometry file 3D.GEM. Look at the array in Modify, how is it different from what you saw in the 3Dsphere.gem file? Alt-tab to Edy and look at the 3D.GEM file. (Esc L 3D.gem Enter).
16. In the Geometry file development screen adjust the x offset by 20. Erase entire PA and Insert into PA. Look at the result in Modify and then in View. How is this different from what you saw in step 13? Why?