

Instructions on the Display of the Computer Anatomical Female

The description of this input file can be found in:

NASA CR-134043

http://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/19730023290_1973023290.pdf

Modify the CAM file as follows:

1. Remove the message statement at the top.
2. Remove the void statement.
3. Remove the vol statement
4. Remove the tally statement
5. Include the surfaces, cells and materials in the input file (do not use the read statements).

To make the 3D ray trace with a cookie cutter:

Increase the dimensions of the enclosing surfaces:

1112 s 0 0 89 549

1113 s 0 0 89 550

Add cookie cutter surfaces:

2000 px 0.001

2001 py -3.001

2002 pz -20

2003 pz 200

2004 cz 100

Add cookie cutter cell:

10000 0 2000 -2004 2001 -2003 2002

In the left plot window set the following:

Plot origin: 0 0 80

Plot extents: 95 95

Plot Basis: -.7071 .7071 0 -.7071 -.7071 0

In the 3D Ray Tracing window set the following:

Cell numbers to plot: 1-576 697-873 884-889 899-1094 1110-1361 1387-1412 1425-1451 1464-1657 1697-1726 1751-1838 1847-1904 1921-1976 1985-2040 2066-2224 2250-2422 2432-2446

Set the viewpoint to:

200 200 10

Select "Show cookie cutters" (bottom middle option)

Set Resolution to 1000

Select Normal 3D Plot:

The screenshot displays the MCNPX Visual Editor interface. The main window shows a 3D wireframe model of a human figure, rendered in green and blue. The interface is divided into several sections:

- Top Menu Bar:** File, Input, Update Plots, Surface, Cell, Source, Data, Run, Particle Display, Tally Plots, Cross section plots, 3D View, CAD Import, Read_again, Backup, Website, Options, View, Help.
- Status Bar:** F:\SBIR_NASA\CAM_CAF\CAM_CAF\ca\CAF_ras
- Left Panel:** Update, Global, -42.2867, -20.7419, 80.0000, XZ, -0.7071, 0.7071, 0. Buttons: Last, Next, Reset, Zoom, Origin, Extent, Refresh, Surf, Unused, Cell, Color, Facets, WW Mesh, Cell Lin, Rect, tal mesh, Rotate about, Axial, Vert, Horiz, Res, Pscript.
- Right Panel: 3D Ray Tracing -- Click help for more information**
 - Close, Normal 3D Plot, Radiographic 3D, Transparent 3D, Save Parameters, Help
 - NPS = 998499, CTME (secs) = 248.9925
 - Viewpoint: X 200, Y 200, Z 10
 - The viewpoint must be in a non-zero importance cell and must not be in one of the cells listed below
 - Cells: Enter cell numbers to show in 3d in text box below. Enter cell numbers or cell ranges separated by spaces or commas. For example, 1 4 5-6. 1-576 697-973 884-889 899-1094 1110-1361 1387-1412 1425-1451 1484-1657 1697-1726 1751-183
 - Ray tracing is from the viewpoint to the entire image plane (with extents) of the active 2D plot
 - 3D data used to make the plot:
 - Update Plot Basis: Horizontal (-0.707106, 0.707106, 5.830091), Vertical (-0.16987, -0.16987, -0.97071), Origin-Source Vector (0.686398, 0.686398, -0.24023)
 - Radiography Options:
 - Darkness indicates ray length (Ray length corresponding to pure black: 3)
 - Darkness indicates (ray length) * (cross section)
 - Transparency Options:
 - Cell Transparency (0 - 1.0): 0.1
 - Average Cell: 4
 - Color by Cell, Draw lines around cell, Color cells by materia
 - Use 3D shading, Use distance shading, Point source
 - Hide plot plane image, Show cookie cutters, Plot to outside world
 - Resolution: 1000
 - Warning: surface 1119 is not used for anything, surface 1121 is not used for anything.
 - imon is done, plot is done, xact is done, moun is done

To create the Radiographic 3D plot:

Select “Darkness indicates (ray length)*(cross section).

Set “Energy of the Source to” :

.06 (Incident energy of the X-ray is 0.06 Mev)

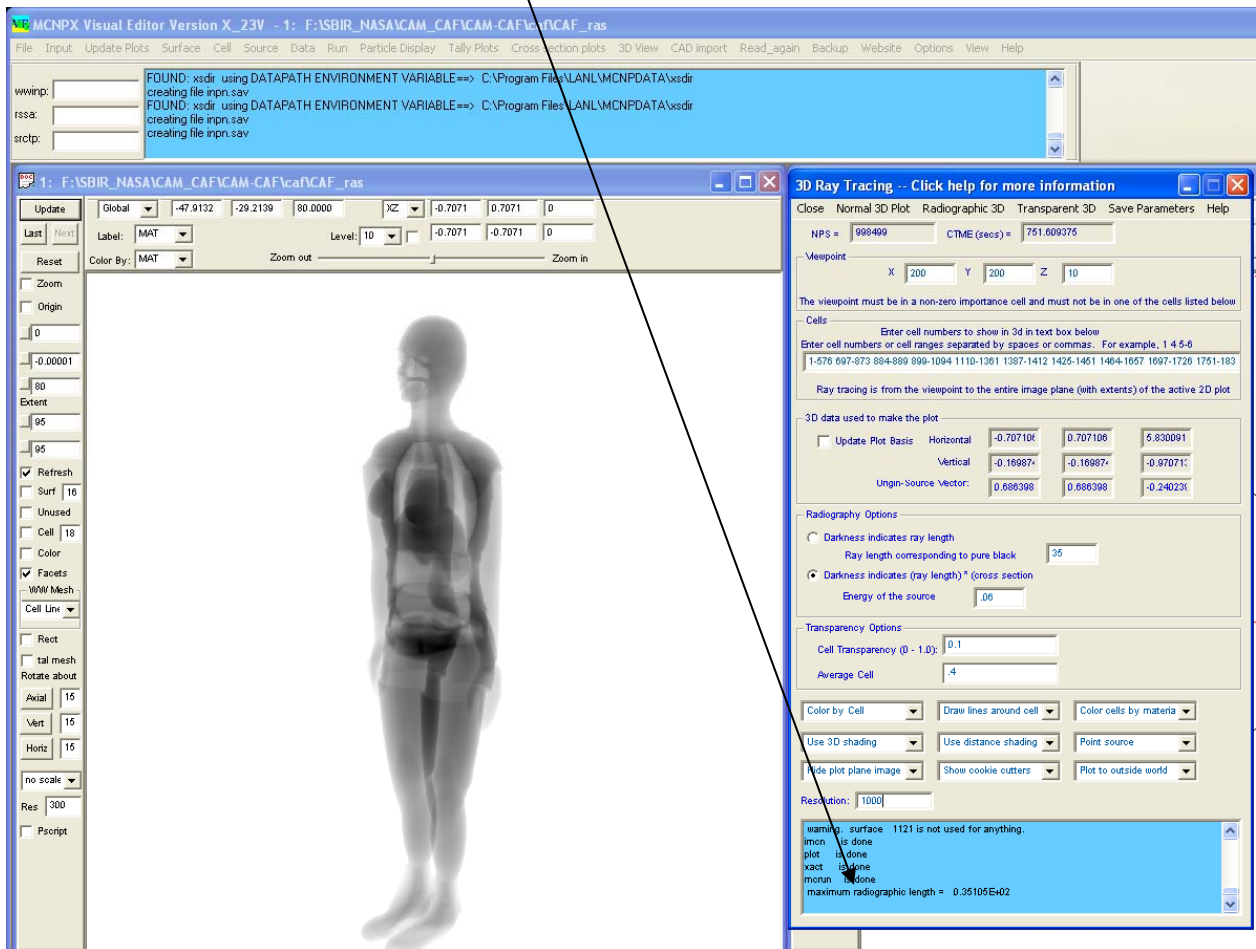
You can change this to get different plots for different incident energies.

Set “Ray length corresponding to pure black” to:

35

This value is calculated after each plot, update this to the value provided by MCNP.

Select Radiographic 3D Plot:



Set the Cell Transparency to:

0.065

Adjust this number so the maximum non-transparency is about 1.0

Set the Average Cell to:

1.62

This value is calculated after each plot, update this to the value provided by MCNP.

Select Transparent 3D Plot:

The screenshot displays the MCNPX Visual Editor interface. The main window shows a 3D rendering of a human figure with a green and blue color scheme. The 3D Ray Tracing control panel on the right is open, showing various settings for the 3D plot. The 'Transparency Options' section is highlighted, showing 'Cell Transparency (0 - 1.0)' set to 0.065 and 'Average Cell' set to 1.62. The 'Status' window at the bottom right of the control panel shows the following information:

```
imch is done
plot is done
fact is done
mch is done
average trans. cell length = 0.16140E+01
maximum non-transparency = 1.04649
```