EGS Particle Trajectory and Geometry Display Program CGVIEW Ver 1.2

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1. Introduction

In a calculation using the EGS [1] code, it is important and convenient to check geometry for calculation and particle trajectory visually for validating the of calculation conditions. Also, a graphical interface is useful for understanding the interactions. For these purposes, EGS particle trajectory and geometry 3D-display program CGVIEW Ver.1 is made [2].

CGVIEW Ver.1.2 is add to a new function. The function is can be used to check the geometry. Also, CGVIEW running on linux is made.

2. Outline of functions

1) Requirement OS is Microsoft Windows 98 or later, and linux with X-Window.

2) CGVIEW's input file is output file of EGS4 with pict routine.

3) The geometry data for display is Spheres of co-center, Cylinders of co-center line, 3-dimensional slabs and combinatorial geometry (CG) [3]. Also, the geometry level for display is Body, Zone and Material.

4) The kind of Particle for display is Photon(γ,x), Electron(e-) and Positron(e+). Also, it is possible to change of line color, change of line type, turn ON/OFF, specifying the energy region and specifying the history region

5) Peripheral functions are displaying a title box and memo box and displaying a legend of particles. Also, it is turning ON/OFF and inputs the contents of the box and the particles of box can be changed using the mouse.

6) It is possible to print and save a figure displayed on the screen.

7) CGVIEW can be used to help create geometry data for an EGS calculation. This data can be used as a CG input file in an EGS calculation.

8) CGVIEW can be used to check the created geometry data.

3. Example of display
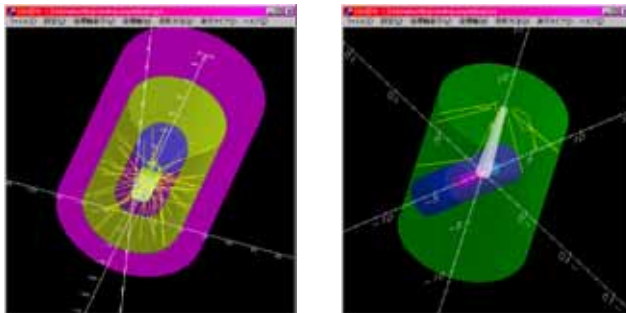
Reference

[1]   W. R. Nelson, H. Hirayama, and D. W. O. Rogers, SLAC-265,SLAC(1985).

[2]   Y. Namito, H. Hirayama, A. Takamura and T. Sugita KEK Proceedings 2003-15.

[3]   T. Torii etc, JNC TN1410 2002-001.