

A Quick Introduction to D0Scan

This document should provide just enough information so that you can see what D0Scan can provide. Please contact the maintainers for more detailed documentation.

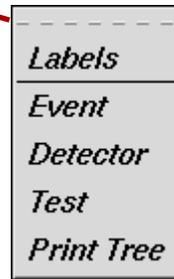
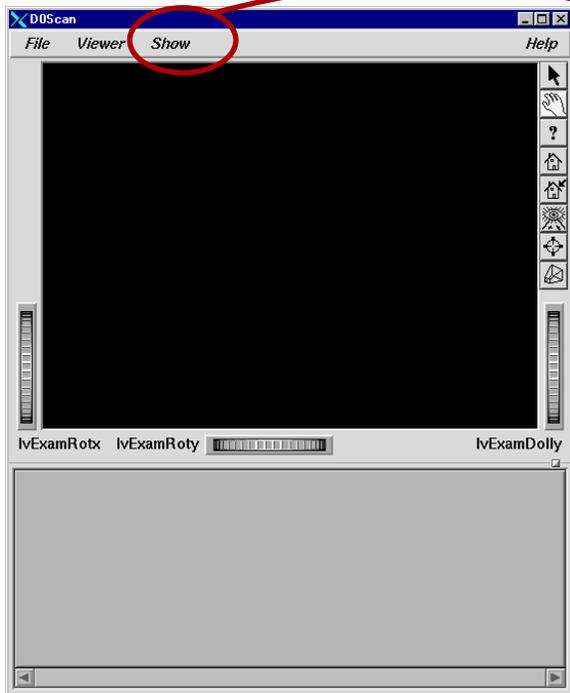
1. Getting Your Own Copy (t00.79.00 version)

```
<d0mino> setup n32
<d0mino> setup D0RunII t00.79.00
**** setup D0RunII t00.79.00
<d0mino> newrel -t t00.79.00 scan_79
Creating a test release "scan_79" in the directory
  /home/your_name_here
<d0mino> cd scan_79
<d0mino> setup d0cvs
<d0mino> d0setwa
<d0mino> addpkg -h D0Scan
....

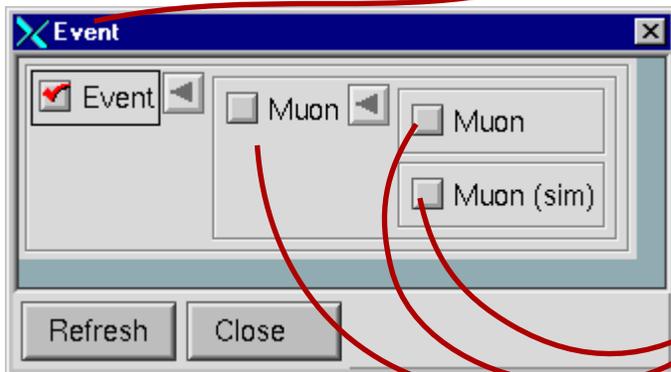
# begin kludge for old version of HEPVis
<d0mino> cp -r ~alverson/test_79/HEPVis HEPVis
<d0mino> addpkg SRT_D0
...
> cp ~alverson/test_79/SRT_D0/SoftRelTools/arch_spec_opengl.mk SRT_D0/SoftRelTools/arch_spec_opengl.mk
> cp ~alverson/test_79/SRT_D0/SoftRelTools/arch_spec_hepvis.mk SRT_D0/SoftRelTools/arch_spec_hepvis.mk
<d0mino> cd include
<d0mino> ln -s ../HEPVis/include/HEPVis HEPVis
<d0mino> cd ..
<d0mino> gmake HEPVis.lib
...
# end kludge for HEPVis

<d0mino> gmake D0Scan.lib
...
<d0mino> gmake D0Scan.bin
...
<d0mino> cvs checkout io_packages/rcp
...
(edit io_packages/rcp/ReadEvent.rcp to use your input data file)
<d0mino> setenv DISPLAY your_display_here_if_you_use_tcsh
<d0mino> bin/IRIX6-KCC_3_3/D0Scan -rcp D0Scan/rcp/D0Scan_test.rcp
```

This should get you a running copy of the default D0Scan. In the next few pages we'll take a look at some of the things we can do.

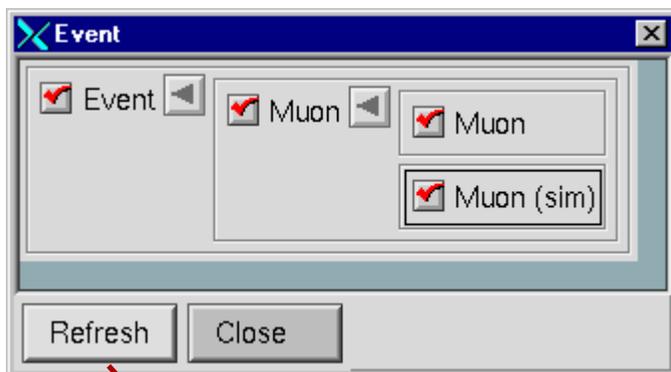


This is what it looks like when it starts up: blank except for the controls. The one you should start with is the *Show* menu. Select the *Event* item. The *Event* panel now pops up.



The event is on by default, but there is nothing in the event until we select it.

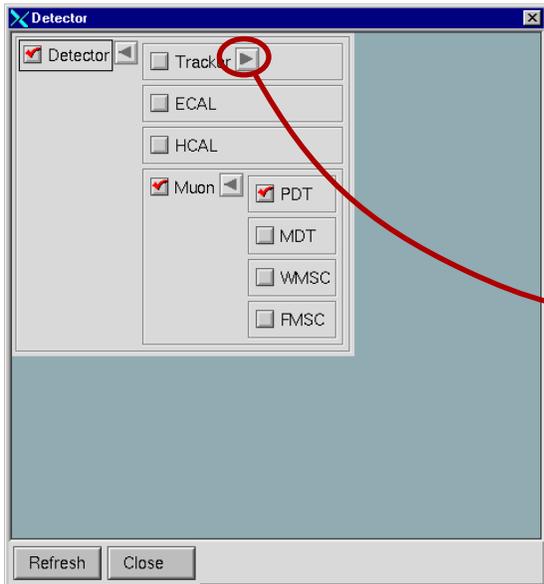
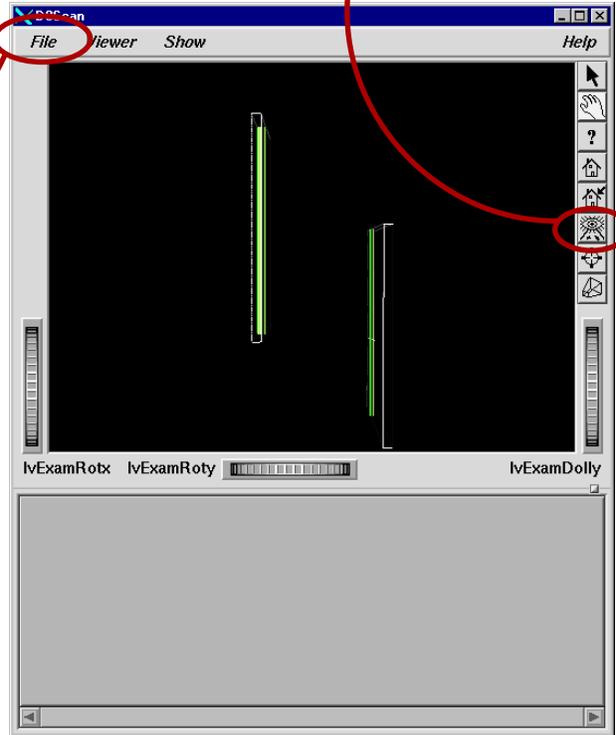
We'll opt to see the Muon data. Click on all three check boxes. Then click Refresh.



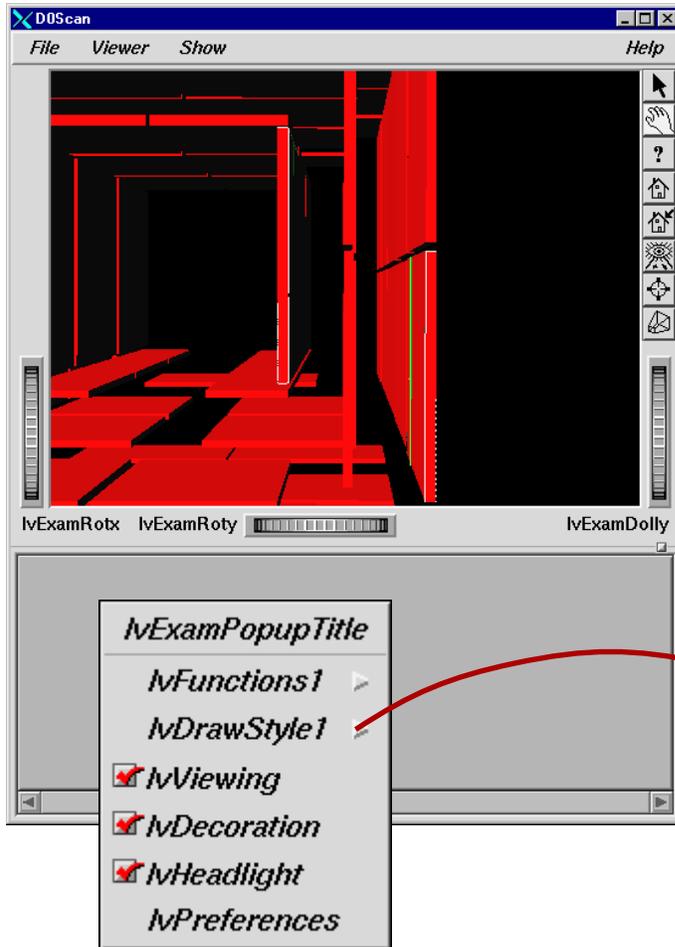
Now we can try to see an event. It will probably look blank to start. That's because we're zoomed in too close. Hit the **ViewAll** button to check.



Select New event from the File menu for another event.

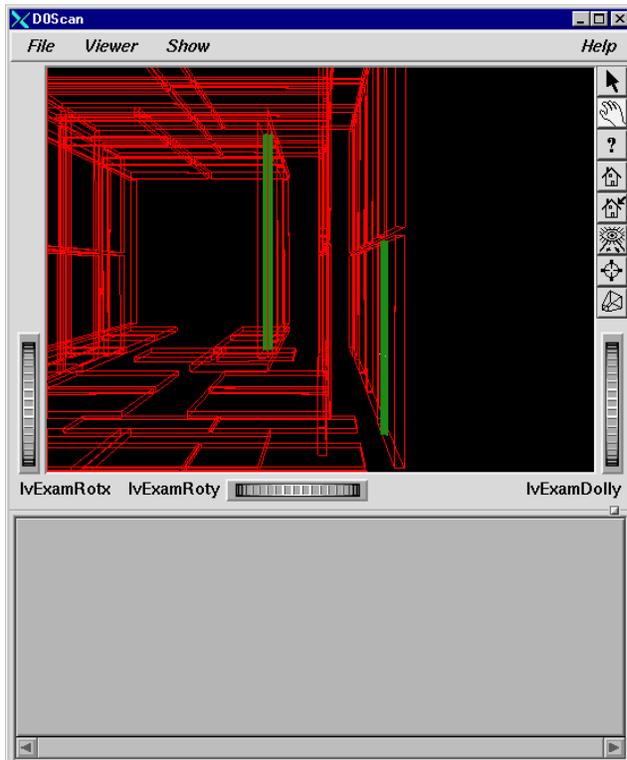


Here's what another Show panel looks like. This one is for the Detector part of the scene and is somewhat more developed than the Event. We see here that a complicated panel can be compressed by using the triangle to close portions which don't need to be modified. The panel still has to be manually resized to recover the real estate, however.



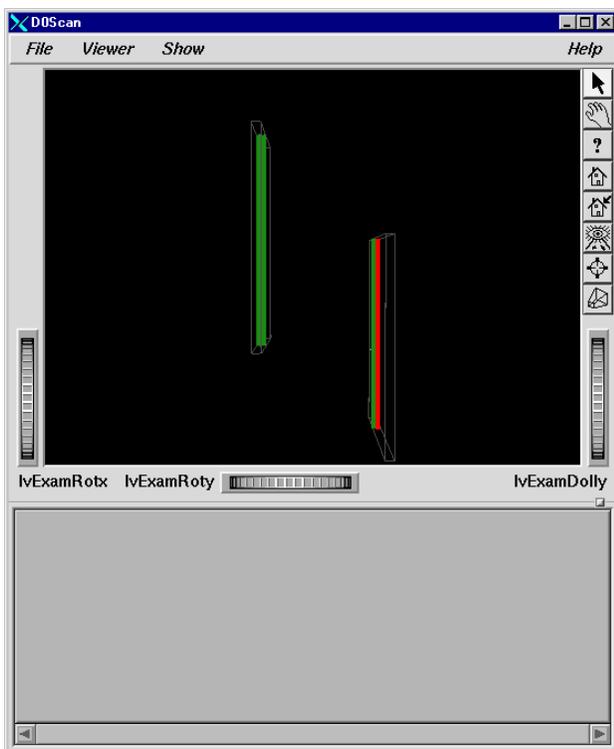
Turning on the Muon PDT's in the Detector menu makes the scene look great, but it is hard to find the muon hits now. We can use some of the viewing options to help. Right click on the screen to get the viewing options, and select IvWireFrame instead of IvAsIs.

- IvAsIs*
- IvHiddenLine*
- IvNoTexture*
- IvLowResolution*
- IvWireFrame*
- IvPoints*
- IvBoundingBoxNoDepth*
- IvMoveSameAsStill*
- IvMoveNoTexture*
- IvMoveLowRes*
- IvMoveWireFrame*
- IvMoveLowResWireFrameNoDepth*
- IvMovePoints*
- IvMoveLowResPointsNoDepth*
- IvMoveBoundingBoxNoDepth*
- IvSingleBuffer*
- IvDoubleBuffer*
- IvInteractiveBuffer*



Extracting Information (Picking)

In general, you should start by turning off the detector. Many hit-type objects are located inside some detector elements and could otherwise not be selected. Turning the detector on and off is generally a quick operation.



Clicking on an object should select it (sometimes one is fooled by the 3D nature of the representations. Keep trying different parts of the object).

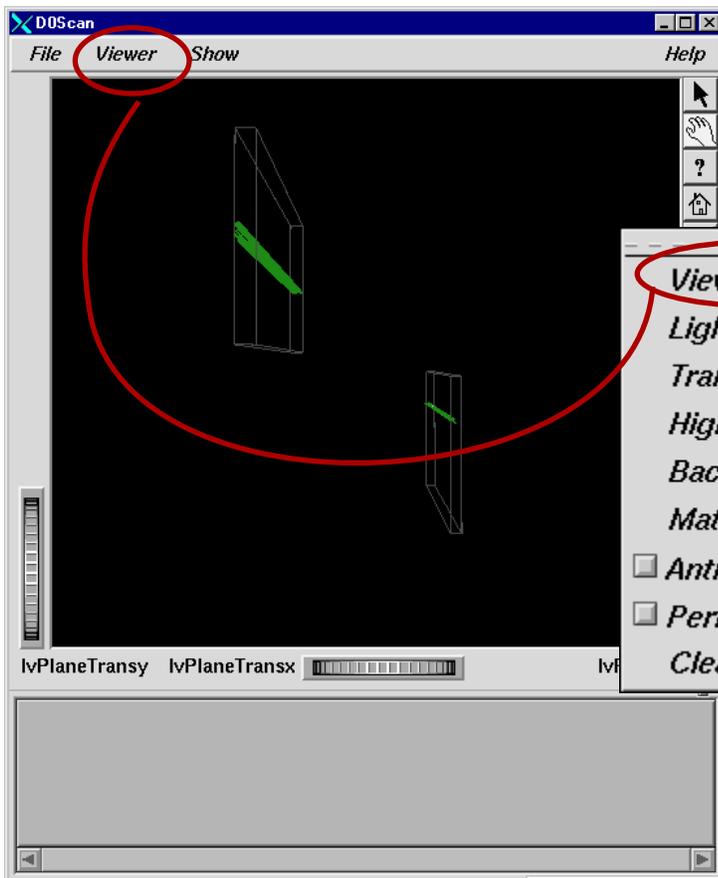
When an object is selected, it is highlighted (which generally outlines it in red), and the default insertion operator for the object is invoked. Here's what the scene and the output look like for a PDT hit.

Found a match in tree Show:
A PDT hit has been selected.

51.66 7.80 0.51 -29.00
569.79 -212.82 495.56 2

MuoSectionIndex: region = 0; type = 0; layer = 2; octant = 7; barrel = 4

MuoCellIndex: plane = 2; eta = 7; phi = 0; tube = 0



Selecting a plane view can often make things clearer. Select Plane Viewer from the Viewer Style menu.



We can now select the simulated hits. They are represented by the smallest dot available, so you can't really spot them in this picture, but their locations are returned as shown below.

Found a match in tree Show:
 (283.62,-127.32,248.62)
 (289.35,-129.89,253.65)
 (296.00,-132.86,259.49)
 (301.73,-135.43,264.52)

