Subject: Re: Explosion problem (object graphics)
Posted by bowman on Sat, 03 Jul 1999 07:00:00 GMT
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In article <7ll5nu$787$1@nnrp1.deja.com>, shearerm@bp.com wrote:

> I have a 3d data array of the flame progression from some large scale
> tests. I wish to display iso-surfaces (i.e. the flame surface at a
> given
> time) from this data plus a certain amount of geometry and the
> locations
> of the instruments that produced the data. I then want to produce an
> animation of the development of the explosion.
>
> I know this all sounds fairly ambitious, especially since I am fairly
> new
> to IDL, but I can see how most of it can be achieved. The only problem
> I have is that I can not figure out how to generate the is-osurface as
> an object. (I have succeeded with the non object based commands)
>
> Can any one help?

I have a program to do something similar, but I haven't used it in quite a
while, so I confess that the details are no longer fresh in my mind.
(That's a polite way of saying that I don't remember how the hell this
thing works.)

```
SHADE_VOLUME, pvc, pv0, v, poly                 ;Find the pv0 isosurface

v(0L,*) = -1.0 + 2.0*v(0L,*)/n                  ;Scale the x-coordinates
of vertices
v(1L,*) = -1.0 + 2.0*v(1L,*)/n                  ;Scale the y-coordinates
of vertices
v(2L,*) = -1.0 + 2.0*v(2L,*)/nzz                ;Scale the z-coordinates
of vertices
PRINT, MIN(v(0L,*)), MAX(v(0L,*))
PRINT, MIN(v(1L,*)), MAX(v(1L,*))
PRINT, MIN(v(2L,*)), MAX(v(2L,*))
HELP, v, poly

title = 'Test Window'
ni = 400L
nj = 400L
view     = OBJ_NEW('IDLgrView', VIEWPLANE_RECT = [-1.0, -1.0, 2.0, 2.0], $
   PROJECTION = 1L, ZCLIP = [1.0, -1.0])
model    = OBJ_NEW('IDLgrModel')                ;Create model to contain
surface
window   = OBJ_NEW('IDLgrWindow', TITLE = title, $;Create (ni x nj) window
```

```
   DIMENSIONS = [ni, nj])
trimesh  = OBJ_NEW('IDLgrTessellator')          ;Create object for tesselator
trimesh -> AddPolygon, v, POLYGON = poly
tess = trimesh -> Tessellate(v, poly)
OBJ_DESTROY, trimesh
HELP, v, poly
surface  = OBJ_NEW('IDLgrPolygon', v, POLYGONS = poly, $ ;Create surface
   COLOR = [255,255,255], STYLE = 2L, SHADING = 1L, REJECT = 0L)
model  -> ADD, surface                      ;Add surface to model

lightmodel = OBJ_NEW('IDLgrModel')              ;Create lighting model
fixedlight = OBJ_NEW('IDLgrLight', TYPE = 1, $    ;Create a fixed light
   LOCATION = [-1,-1,1], COLOR = [128,128,128])
lightmodel -> ADD, fixedlight                   ;Add the fixed light to
its own model so the light will stay stationary

light = OBJ_NEW('IDLgrLight', TYPE = 2, $       ;Create movable light
that goes with surface
   LOCATION = [-1,-1,-1])
model -> ADD, light                         ;Add a light to the main model

TVLCT, r, g, b, /GET                        ;Get existing palette
palette = OBJ_NEW('IDLgrPalette', r, g, b)      ;Create palette object
window -> SETPROPERTY, PALETTE = palette        ;Add palette to window

model  -> SCALE, 0.9, 0.9, 0.9
model  -> ROTATE, [1, 0, 0], 60.0
view   -> ADD, model                        ;Add surface model to view
view   -> ADD, lightmodel                   ;Add fixed light to view
window -> DRAW, view                        ;Draw view in window

STOP

OBJ_DESTROY, window                         ;Destroy window object
OBJ_DESTROY, view                           ;Destroy view object
```