Subject: Re: Contour plots on xz and yz surfaces
Posted by K. Bowman on Wed, 14 Jun 2000 07:00:00 GMT
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In article <8i7ih4$d6s$1@peque.uv.es>, Luis Alonso <luis.alonso@uv.es> wrote:

> I'm interested in how you do it, thanks!

Here's the basic code. Run it with no arguments to see a sample.

Ken

```
PRO TEST_3CONTOUR, x, y, z, xy, xz, yz, xc, yc, zc

;   x,  y,  z  : coordinates of points to plot in 3-D scatterplot
;   xy, xz, yz : functions to be contoured in each of the planes
;   xc, yx, zc : coordinates of grids for xy, xz, yz

IF (N_PARAMS() EQ 0L) THEN BEGIN
  np = 1000L
  x = RANDOMU(dseed, np)
  y = RANDOMU(dseed, np)
  z = RANDOMU(dseed, np)
  nx = 20L
  ny = 25L
  nz = 30L
  xc = FINDGEN(nx)/(nx-1L)
  yc = FINDGEN(ny)/(ny-1L)
  zc = FINDGEN(nz)/(nz-1L)
  xy = DIST(nx, ny)
  xz = DIST(nx, nz)
  yz = DIST(ny, nz)
ENDIF

CONTOUR, xy, xc, yc, PATH_XY = xy_path, /PATH_DATA_COORDS, PATH_INFO = xy_info
;Compute x-y contours
CONTOUR, xz, xc, zc, PATH_XY = xz_path, /PATH_DATA_COORDS, PATH_INFO = xz_info
;Compute x-z contours
CONTOUR, yz, yc, zc, PATH_XY = yz_path, /PATH_DATA_COORDS, PATH_INFO = yz_info
;Compute y-z contours

xmin =  0.0
xmax =  1.0
ymin =  0.0
ymax =  1.0
zmin =  0.0
```

```
zmax =  1.0
PLOT_3DBOX, x, y, z, PSYM = 3, TITLE = 'Test Plot', $                    ;Plot 3D scatterplot
  XTITLE = 'X', XRANGE = [xmin, xmax], $
  YTITLE = 'Y', YRANGE = [ymin, ymax], $
  ZTITLE = 'Z', ZRANGE = [zmin, zmax]

FOR i = 0L, N_ELEMENTS(xy_info) - 1L DO BEGIN
  ii = xy_info(i).offset + [LINDGEN(xy_info(i).n), 0L]
  PLOTS, xy_path(0L,ii), $                                    ;Draw an x-y contour
        xy_path(1L,ii), $
        REPLICATE(zmin, xy_info(i).n+1L), $
        /T3D
ENDFOR

FOR i = 0L, N_ELEMENTS(xz_info) - 1L DO BEGIN
  ii = xz_info(i).offset + [LINDGEN(xz_info(i).n), 0L]
  PLOTS, xz_path(0L,ii), $                                    ;Draw an x-z contour
        REPLICATE(ymax, xz_info(i).n+1L), $
        xz_path(1L,ii), $
        /T3D
ENDFOR

FOR i = 0L, N_ELEMENTS(yz_info) - 1L DO BEGIN
  ii = yz_info(i).offset + [LINDGEN(yz_info(i).n), 0L]
  PLOTS, REPLICATE(xmax, yz_info(i).n+1L), $                  ;Draw an y-z contour
        yz_path(0L,ii), $
        yz_path(1L,ii), $
        /T3D
ENDFOR

RETURN
END
```