Subject: Re: 3D plot of set of curves Posted by Timm Weitkamp on Tue, 25 May 2004 16:43:27 GMT View Forum Message <> Reply to Message

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On 24.05.04 at 17:33 -0600, David Fanning wrote:
> Timm Weitkamp writes:
>> I have a set of curves -- say, the values are in a 2D array "Z" -- and
>> would like to make a nice-looking graph something like this hand-drawn
>> sketch:
>>
    http://tinyurl.com/36frg
>>
>>
>> [...]
> Is there a built-in IDL routine to do it? I don't
> think so. I've never seen one. Can I imagine writing such
> a routine? Yes. I'd definitely do it in object graphics,
> because the 3D part of it will be much easier, and you
> will be able to rotate it, which will make it easier for
> the user to see different parts of it.
```

It finally turned out not to be so hard, yet without any object graphics. The T3D mechanism provides enough rotation functionality for my purposes.

Below is the code I am now using. Poorly documented, unreliable, no EXTRAs, etc. But it does what I want. And there is an example at the end, for whoever may want to look at it :-)

Timm

Timm Weitkamp http://people.web.psi.ch/weitkamp :: ------ Start ------PRO PlotCurveSet, z, x, y \$, FILL COLORS = fillColors \$, VERTICAL_BARS = vertBars \$, PSYM = psymdimZ = SIZE(z, /DIMENSIONS)nx = dimZ[0]ny = dimZ[1]IF $N_{ELEMENTS}(x) = Q 0 THEN x = FINDGEN(nx)$ IF N ELEMENTS(y) EQ 0 THEN y = FINDGEN(ny)IF N ELEMENTS(fillColors) EQ 0 THEN fillColors = LONARR(nx)

```
;; Set up coordinate axes
SURFACE, /NODATA, /SAVE, z, x, y
;; Draw "sheets" from back to front
FOR ix = nx-1, 0, -1 DO BEGIN
  polyY = [y, REVERSE(y), y[0]]
  polyX = x[ix] + FLTARR(N_ELEMENTS(polyY))
  polyZ = [REFORM(z[ix,*]), FLTARR(ny), z[ix,0]]
  POLYFILL, polyX, polyY, polyZ, /T3D, COLOR = fillColors[ix]
  PLOTS, polyX, polyY, polyZ, /T3D, PSYM=psym
  IF KEYWORD_SET(vertBars) THEN FOR iy = 0, ny-1 DO $
   PLOTS, x[[ix,ix]], y[[iy, iy]], [0, z[ix,iy]], /T3D
ENDFOR
END
;; ------ Example -----
z = (SIN((FINDGEN(25)/75) \# [1,2,3,4,5,6,7,8]))^2
PlotCurveSet, z, /VERTICAL_BARS
END
;; ------ End -----
```