Subject: Re: oplot for plots
Posted by David Streutker on Fri, 18 Aug 2006 15:07:53 GMT
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Try this:

plots, [index1,index1], [index2,index2], [0,z[index1,index2]], /t3d

As for the arrows, you may have to make and add your own arrowheads to
the existing lines.

-David

Subject: Re: oplot for plots
Posted by btt on Fri, 18 Aug 2006 15:27:08 GMT
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David Streutker wrote:
> Try this:
>
> plots, [index1,index1], [index2,index2], [0,z[index1,index2]], /t3d
>
> As for the arrows, you may have to make and add your own arrowheads to
> the existing lines.
>

There is the built-in arrow.pro you might want to look at.

Subject: Re: oplot for plots
Posted by Norbert Hahn on Fri, 18 Aug 2006 15:32:16 GMT
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"Nic" <nicole_messages@juno.com> wrote:

> It is making lines (how do I get it to plot arrows?), but I think each
> time the for loop runs, it is overwriting the previous loop's plots. I
> want to overplot each new plots to the original surface plot.

You may use arrow in stead of plots. arrow can be called as often as needed
and will add one or more arrows to an existing plot. Unfortunately the
coordinates accepted by arrow are 2D. So you need either transform your
3D data to 2D by calling convert_coord or modify the call to convert_coord
within arrow.pro.

HTH

Norbert

Subject: arrow.pro to 3-D
Posted by Nic on Sat, 19 Aug 2006 00:16:43 GMT
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Hi again! I have been trying to convert arrow.pro to 3D. Here's what
I have so far. When I try it out, it compiles. I tested it out and my
output sort of makes sense.

Usage:
Arrow_3d x0, y0, z0, x1, y1, z1

If I input:
> arrow_3d, 100, 200, 0, 200, 200, 0 I get arrow to the right. check
> arrow_3d, 100, 200, 0, 100, 300, 0 I get arrow up. check
> arrow_3d, 100, 200, 0, 100, 200, 300 I get a dot.

Is the dot really an arrow pointing out of the screen in a 2-d plots,
or have I screwed up my modification?

Thank you,
Nic

****

```
PRO ARROW_3D, x0, y0, z0, x1, y1, z1, HSIZE = hsize, COLOR = color,
HTHICK = hthick, $
 THICK = thick, DATA = data, NORMALIZED = norm, $
 SOLID = solid

COMPILE_OPT idl2

ON_ERROR, 2
;  Set up keyword params

if n_elements(thick) eq 0 then thick = 1.
if n_elements(hthick) eq 0 then hthick = thick

    ;Head size in device units
if n_elements(hsize) eq 0 then arrowsize = !d.x_size/64. * (hthick/2. >
1) $
    else arrowsize = float(hsize)
if n_elements(color) eq 0 then color =!P.color
mcost = -.866d  ;We use 30 degrees for head angle
sint = .500d
```

```
msint = - sint

for i = 0L, n_elements(x0)-1 do begin  ;Each vector
 if keyword_set(data) then $  ;Convert?
    p = convert_coord([x0[i],x1[i]],[y0[i],y1[i],[z0[i],z1[i]]],
/data,/t3d, /to_dev) $
 else if keyword_set(norm) then $
    p = convert_coord([x0[i],x1[i]],[y0[i],y1[i]],[z0[i],z1[i]] /norm,
/to_dev) $
 else p = [[x0[i], y0[i], z0[i]],[x1[i], y1[i], z1[i]]]

 xp0 = p[0,0]
 xp1 = p[0,1]
 yp0 = p[1,0]
 yp1 = p[1,1]
 zp0 = p[2,0]
 zp1 = p[2,1]

 dx = xp1 - xp0
 dy = yp1 - yp0
 dz = zp1 - zp0
 sep = sqrt(dx^2d + dy^2d + dz^2d) ;Length

 if sep gt 0 then begin
  dx = dx/sep  ;Cos th
  dy = dy/sep  ;Sin th
  dz = dz/sep     ;Sin th (?) check
 endif else begin
  dx = 1.
  dy = 0.
  dz = 0.
  sep = 1.
 endelse
 if arrowsize gt 0 then a = arrowsize $  ;a = length of head
 else a = -sep * arrowsize

 xxp0 = xp1 + a * (dx*mcost - dy * msint)
 yyp0 = yp1 + a * (dx*msint + dy * mcost)
 xxp1 = xp1 + a * (dx*mcost - dy * sint)
 yyp1 = yp1 + a * (dx*sint  + dy * mcost)

 if keyword_set(solid) then begin ;Use polyfill?
   b = a * mcost*.9d ;End of arrow shaft (Fudge to force join)
   plots, [xp0, xp1+b*dx], [yp0, yp1+b*dy],[zp0, zp1+b*dz] /DEVICE, $
  COLOR = color, THICK = thick
   polyfill, [xxp0, xxp1, xp1, xxp0], [yyp0, yyp1, yp1, yyp0] $
  /DEVICE, COLOR = color
 endif else begin
```

```
      plots, [xp0, xp1], [yp0, yp1], [zp0, zp1], COLOR = color, THICK =
thick, /DEVICE
   plots, [xxp0,xp1,xxp1],[yyp0,yp1,yyp1], /DEVICE, COLOR = color, $
   THICK = hthick
 endelse
 ENDFOR
end
```

Norbert Hahn wrote:
> "Nic" <nicole_messages@juno.com> wrote:
>
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> HTH
> Norbert
