Subject: Re: Put a 2d plot and an image into a 3D coordinate system
Posted by Mark Piper on Tue, 30 Aug 2011 15:31:05 GMT
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On 8/25/2011 11:07 PM, Jim wrote:
> BTW, as a starting point for making this kind of plot, I used the following fake data:
> <code>
> image = dist(200)
> z = findgen(500)
> phi = gaussian(z) ; make a gaussian potential profile as a function of z.

Hi Jim,

I have a NG solution. Though it uses less code than OG, I had to think about it a bit (NG are still much newer to me than OG). I also had to rely on the undocumented TEXTUPDIR property to flip the labels on the Z axis (thanks, CT!). Please give this a try:

```
n1 = 200
n2 = 500
image = dist(n1)
z = findgen(n2)
phi = gaussian_function(n2/10, width=n2)

w = window()
w.refresh, /disable

; Set up 3D axes and phi plot.
p = plot3d(z*0.0+n1, phi*n1, z, axis_style=2, /current, $
  xrange=[0,n1], xtitle='X', ytitle='Y', ztitle='Z')
p.rotate, 30, /zaxis
p.rotate, 90, /xaxis

; Hide obscuring axes.
to_hide = 'axis' + strtrim([3, 4, 6, 7, 8, 9, 10, 11], 2)
foreach axis, to_hide do p[axis].hide = 1

; Make phi axis.
phiaxis = axis('y', location=[max(p.xrange), 0.0, max(p.zrange)], $
  textpos=1, title='$\phi$')
phiaxis.tickname = $
  string(float(phiaxis.tickname)/n1, format='(f4.2)')

; Display image.
g = image(image, overplot=p, transparency=20)
g.zvalue = 200

; XXX: I got help in uncovering TEXTUPDIR. Should it be exposed?
```

p['zaxis'].setproperty, textupdir=[0,0,-1], /undoc

w.refresh