
Subject: Re: Draped Contours?

Posted by [Michael Galloy](#) on Thu, 10 Dec 2009 17:48:49 GMT

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On 12/10/09 10:06 AM, JD Smith wrote:

> On Dec 9, 5:40 pm, David Fanning<n...@dfanning.com> wrote:

>> JD Smith writes:

>>> I was playing with iSurface (shocking, I know), and found very useful

>>> the ability to "drape" contours interactively on top of the surface,

>>> similar to raised relief maps with contour lines. It occurs to me I

>>> have no idea how to do this; probably some object graphics thing.

>>> Does anyone have a short example of forming such a draped contour? I

>>> did consider using the SHADES keyword for shade_surf to color various

>>> levels black, but I prefer lighting-based shading, and (ideally)

>>> vector contours for output.

>>

>> Can you give us a picture of what you mean, or at least

>> describe what you did with iSurface? I have an example

>> of a contour plot cutting through a surface at any

>> level. I have a feeling that program can be easily

>> adapted if I had a better idea of what you had in mind.

>

> This PDF shows such an example, in Fig. 8:

>

> http://www.ittvis.com/portals/0/tutorials/idl/Contours_and_Surfaces.pdf

>

> Here's another example:

>

> http://tir.astro.utoledo.edu/idl/draped_contours.png

>

> I did notice that even when exporting to EPS, the contours are

> bitmaps, so my SHADES idea might be a reasonable analog. Creating

> contours and dropping each one individually to the appropriate height

> on top of the surface must be doable with object graphics, but it's

> not immediately obvious to me.

>

> Thanks.

>

>

> P.S. Any OSX/XQuartz users recognize this error?

>

> IDLITWINDOW::DOHITTEST: Failure to acquire window rendering context.

> error: xp_attach_gl_context returned: 2

>

> I get it off and on with iTools and must restart IDL.

>

Like this?

```

z = randomu(seed, 50, 50)
for i = 0, 4 do z = smooth(z, 5, /edge_truncate)

view = obj_new('IDLgrView')

model = obj_new('IDLgrModel')
view->add, model

dem = obj_new('IDLgrSurface', z, style=2, color=[200, 200, 0],
depth_offset=1)
model->add, dem

contours = obj_new('IDLgrContour', z, n_levels=15)
model->add, contours

lightModel = obj_new('IDLgrModel')
view->add, lightModel

light = obj_new('IDLgrLight', type=2, location=[-1, 1, 1])
lightModel->add, light

ambientLight = obj_new('IDLgrLight', type=0, intensity=0.4)
lightModel->add, ambientLight

dem->getProperty, xrange=xr, yrange=yr, zrange=zr
xc = norm_coord(xr)
xc[0] -= 0.5
yc = norm_coord(yr)
yc[0] -= 0.5
zc = norm_coord(zr)
zc[0] -= 0.5
dem->setProperty, xcoord_conv=xc, ycoord_conv=yc, zcoord_conv=zc
contours->setProperty, xcoord_conv=xc, ycoord_conv=yc, zcoord_conv=zc

model->rotate, [1, 0, 0], -90
model->rotate, [0, 1, 0], -30
model->rotate, [1, 0, 0], 45

clipboard = obj_new('IDLgrClipboard', dimensions=[400, 400])
clipboard->draw, view, /postscript, /vector, filename='draped_surface.eps'

win = obj_new('IDLgrWindow', dimensions=[400, 400], graphics_tree=view)
win->draw

end

```

Mike

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