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Subject: Re: 3D Density Plots?

Posted by [Scott Norton](#) on Thu, 03 Dec 1998 08:00:00 GMT

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PS. I forgot to mention. I have IDL 5.2  
Thanks.

Scott Norton wrote:

> Does anyone know how to generate 3D density plots? In other words  
> given a set of x,y,z positions, produce a 3D image which establishes a  
> voxel value as the "density" of positions in a region. This is  
> essentially a 3D scatterplot with a sort of fuzzy cloud function around  
> the dense regions.  
> Any clues? Please email directly to me as well as the newgroup, since  
> I'm a little desperate and short on time.  
> Thanks!  
> -Scott Norton, SurroMed, Inc.  
> [Scott\\_Norton@surromed.com](mailto:Scott_Norton@surromed.com)

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Subject: Re: 3D Density Plots?

Posted by [steinhh](#) on Fri, 04 Dec 1998 08:00:00 GMT

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In article <3666E8C4.A4BC3E8@optics.rochester.edu>  
Scott Norton <[norton@optics.rochester.edu](mailto:norton@optics.rochester.edu)> writes:

> Does anyone know how to generate 3D density plots? In other words  
> given a set of x,y,z positions, produce a 3D image which establishes a  
> voxel value as the "density" of positions in a region. This is  
> essentially a 3D scatterplot with a sort of fuzzy cloud function around  
> the dense regions.  
> Any clues? Please email directly to me as well as the newgroup, since  
> I'm a little desperate and short on time.

How about building a 3D volume and filling it with the density,  
something like the program included below.

For some reason I had to edit the SLICER3 program to get it  
running properly, line 5338 has a reference to `demo_filepath()`,  
which I don't seem to have..... Changing it to just `filepath()`  
seems to work... Although I think it still needs some work,  
because starting SLICER3 gobbles up the data pointed to  
by its argument even if you exit as the first thing after  
it starts... Bug? Or just me/my site? What about others?

When slicer3 starts, select e.g. the Projection mode,

use Projection type "Avg." and press display. A funny thing is that pressing "Display" repeatedly changes the display.... guess that's ok, since stuff will be piling up in the Z-buffer until you do an Erase (under Tools)....

Regards,

Stein Vidar

PRO dcube

N = 20

cube = fltarr(N,N,N)

cubx = (findgen(N,N,N) MOD N)-N/2.0

cuby = transpose(cubx,[1,0,2])

cubz = transpose(cubx,[1,2,0])

particles = randomn(seed,3,50) ;; Particle positions

FOR i=0,(size(particles,/dim))(1)-1 DO BEGIN

px = particles(0,i)

py = particles(1,i)

pz = particles(2,i)

gauss = exp(-((cubx-px)^2+(cuby-py)^2+(cubz-pz)^2)/5.0)

cube = temporary(cube)+gauss

END

pdata=ptr\_new(bytscl(cube))

slicer3,pdata

END

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