Subject: Re: SMOOTH function for 3D
Posted by David Fanning on Mon, 21 Nov 2005 18:00:39 GMT
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IDLmastertobe writes:

> Hi, i'm working on smoothing 3D data. I can visualize a 3D object base on
> the data and rotate it . I have used SMOOTH function before to smooth 2D
> image and it worked fine. But now when I am using it for 3D as: result =
> SMOOTH(3Darray); and then use the result as my new 3D data, I observe no
> difference when I am visualizing it. It looked just like the original
> unsmoothed function. Does anyone know why?

No, I don't know why. Lousy visualization method would be
my first guess. :-)

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/

Subject: Re: SMOOTH function for 3D
Posted by Bringfried Stecklum on Tue, 22 Nov 2005 07:46:47 GMT
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IDLmastertobe wrote:
> Hi, i'm working on smoothing 3D data. I can visualize a 3D object base on
> the data and rotate it . I have used SMOOTH function before to smooth 2D
> image and it worked fine. But now when I am using it for 3D as: result =
> SMOOTH(3Darray); and then use the result as my new 3D data, I observe no
> difference when I am visualizing it. It looked just like the original
> unsmoothed function. Does anyone know why? Thank you.
>

The syntax result =SMOOTH(3Darray) is wrong since a second argument is
required which indicates the smoothing width (scalar or vector). For smoothing
a 3D array in each direction the proper call would be, e.g.
result=SMOOTH(3Darray, [2,4,3])
which smoothes the data in the x-direction over two pixels, in y-direction over 4,
and in z-direction over 3 pixels.

regards,

Bringfried Stecklum

Subject: Re: SMOOTH function for 3D
Posted by IDLmastertobe on Tue, 22 Nov 2005 09:20:39 GMT
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Thanks, but I also tried doing result = SMOOTH(3Darray,[3,3,3]) and I observe no difference. any ideas?

Subject: Re: SMOOTH function for 3D
Posted by Rick Towler on Tue, 22 Nov 2005 18:16:19 GMT
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IDLmastertobe wrote:
> Thanks, but I also tried doing result = SMOOTH(3Darray,[3,3,3]) and I
> observe no difference. any ideas?

I don't mean to be rude, but how could anyone possibly answer your question given so little information? SMOOTH works fine on 3d data. I can easily observe a difference in the data:

```
IDL> x=randomu(s,3,3,3)*10.
IDL> print, x
      7.79008      4.15141      7.48622
      1.69548      6.31630      6.84862
      7.00782      2.78159      7.85362

      5.91996     0.659594      5.77286
      8.38353      3.33698      9.03057
      7.64424     0.474168      5.77164

      3.62966      8.94523      4.11056
      9.33464      1.19968      4.66864
      5.79112      3.83709      1.43494
IDL> print, smooth(x,3,/edge)
      5.31274      5.66250      6.01227
      5.21623      5.58725      5.95827
      5.11973      5.51200      5.90428

      5.42783      5.47206      5.51628
      5.41093      5.25468      5.09842
      5.39403      5.03729      4.68056

      5.54293      5.28162      5.02030
```

5.60563 4.92210 4.23857
5.66832 4.56258 3.45685

You could do something similar with your data to convince yourself that SMOOTH is working. Then you would know that your problem lies elsewhere and you could start looking for other possibilities.

-Rick
