Subject: Plotting a 3D Array In IDL
Posted by K. Banerjee on Tue, 17 Jul 2001 23:56:21 GMT
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Say I have a 3D array whose elements are only 1 or 0. I'd like to plot
this array, say a white dot for the 1's and a red dot for the 0's. Is there
a way I can do this in IDL?

(I'm fairly new to IDL and thre's probably a straight forward
way to do this!)

Thanks.

K. Banerjee

Subject: Re: Plotting a 3D Array In IDL
Posted by Pavel A. Romashkin on Wed, 18 Jul 2001 16:07:38 GMT
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Could you give an idea what kind of a plot you want to make?
Do you mean 3D to be Array[10,10,10] or is it an XYZ-type data set - Array[10,10]?

Cheers,
Pavel

"K. Banerjee" wrote:
>
> Say I have a 3D array whose elements are only 1 or 0. I'd like to plot
> this array, say a white dot for the 1's and a red dot for the 0's. Is there
> a way I can do this in IDL?
>
> (I'm fairly new to IDL and thre's probably a straight forward
> way to do this!)
>
> Thanks.
>
> K. Banerjee

Subject: Re: Plotting a 3D Array In IDL
Posted by eddie haskell on Wed, 18 Jul 2001 16:20:12 GMT
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> Say I have a 3D array whose elements are only 1 or 0. I'd like to plot
> this array, say a white dot for the 1's and a red dot for the 0's. Is there
> a way I can do this in IDL?

Below is a program fragment that does what I think you want done. There might be a slick one line way of doing it or maybe something visually stunning using object graphics but nothing currently leaps to mind.

Cheers,
eddie

```
;-------------------------
n = 4
a = randomu(seed,n,n,n) gt 0.5
surface, dist(n), /nodata, zr=[0,n-1], /save
tvlct,[0,255],[255,0],[0,0],1

for j = 0,1 do begin
  wh = where(a eq j)
  x = wh mod n
  y = wh / n mod n
  z = wh / n^2
  for i = 0, n_elements(wh)-1 do $
    plots,x[i],y[i],z[i],/t3d,psym=2,color=j+1
endfor
;----------------------
```

A G Edward Haskell
Center for Coastal Physical Oceanography
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e-mail haskell*ccpo.odu.edu

Subject: Re: Plotting a 3D Array In IDL
Posted by david[2] on Thu, 19 Jul 2001 03:05:21 GMT
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K. Banerjee writes:

> Between 3,000 and 4,000.

Yeah, bad news. :-(

Cheers,

David
--
David Fanning, Ph.D.
Fanning Software Consulting

Subject: Re: Plotting a 3D Array In IDL
Posted by Paul van Delst on Thu, 19 Jul 2001 14:16:54 GMT
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eddie haskell wrote:
>
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>> a way I can do this in IDL?
>
> Below is a program fragment that does what I think you want done. There might
> be a slick one line way of doing it or maybe something visually stunning using
> object graphics but nothing currently leaps to mind.
>
> Cheers,
> eddie
>
> ;-------------------------
> n = 4
> a = randomu(seed,n,n,n) gt 0.5
> surface, dist(n), /nodata, zr=[0,n-1], /save
> tvlct,[0,255],[255,0],[0,0],1
>
> for j = 0,1 do begin
> wh = where(a eq j)
> x = wh mod n
> y = wh / n mod n
> z = wh / n^2
> for i = 0, n_elements(wh)-1 do $
> plots,x[i],y[i],z[i],/t3d,psym=2,color=j+1
> endfor
> ;----------------------

Cool - I couldn't figure out how to do it. I modified the above a little to use plot3d

```
n = 4
a = randomu(seed,n,n,n) gt 0.5
tvlct,[0,255],[255,0],[0,0],1

for j = 0,1 do begin
  wh = where(a eq j)
  x = wh mod n
  y = wh / n mod n
```

```
  z = wh / n^2
  plot3d, x,y,z,psym=2,color=j+1,oplot=j
endfor
```

but I find the resultant plot hard to interpret. I think this is a case where object graphics is required to give some depth to the plot by varying the size of the plotting symbols with perceived depth... or something like that.

paulv

--
Paul van Delst A little learning is a dangerous thing;
CIMSS @ NOAA/NCEP Drink deep, or taste not the Pierian spring;
Ph: (301)763-8000 x7274 There shallow draughts intoxicate the brain,
Fax:(301)763-8545 And drinking largely sobers us again.
Alexander Pope.
