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Subject: 3D Scatter Plot

Posted by [aecorner](#) on Thu, 06 Apr 2006 13:55:15 GMT

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Hi.

I created a 3D scatter plot (long, lat, alt) for some satellite data (using the very helpful tips on David Fanning's website). A few questions...

- 1) Is there a way to fill in the symbols? This seems like it should be obvious.
- 2) I need each point to be a different color based on it's Aerosol Optical Depth. I created an array of the color that each point needs to be. Can I set the COLOR keyword equal to this array in the PLOTS procedure to achieve that result?
- 3) Is there a way to display a 3D plot on a map projection? The x and y axes are longitude and latitude and I would like to slip a map in horizontally along the bottom of the plot.

Thanks,  
Amy

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Subject: Re: 3D Scatter Plot

Posted by [sjone7](#) on Wed, 27 Aug 2014 22:40:37 GMT

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How might one add error bars to a 3d scatter plot?

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Subject: Re: 3D Scatter Plot

Posted by [Paul Van Delst\[1\]](#) on Thu, 28 Aug 2014 21:29:36 GMT

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On 08/27/14 18:40, sjone7 wrote:

> How might one add error bars to a 3d scatter plot?

How about plotting the data as semi-transparent orbs where the dimensions of the orbs represent the error bar extents?

See David Fanning's example code at:

[http://www.idlcoyote.com/tip\\_examples/scatter\\_surface.pro](http://www.idlcoyote.com/tip_examples/scatter_surface.pro)

The original article is at:

<http://www.idlcoyote.com/tips/scatter3d.html>

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cheers,

paulv

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Subject: Re: 3D Scatter Plot

Posted by [Paul Van Delst\[1\]](#) on Thu, 28 Aug 2014 21:38:34 GMT

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On 08/28/14 17:29, Paul van Delst wrote:

> On 08/27/14 18:40, sjone7 wrote:

>> How might one add error bars to a 3d scatter plot?

>

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I forgot to mention that you will have to define your own non-spherical orb object (the one that comes with the IDL example code is spherical).

I guess it would be an "ellipsoid" object. Modifying the orb object shouldn't be too hard (he says!) since it's the degenerate case where the principal axes are all the same.

It will be a interesting programming exercise.

I wonder how fast it would render for, say, 10000 points?

cheers,

paulv

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Subject: Re: 3D Scatter Plot

Posted by [Jim Pendleton](#) on Fri, 29 Aug 2014 03:39:04 GMT

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On Thursday, August 28, 2014 3:38:34 PM UTC-6, Paul van Delst wrote:

> On 08/28/14 17:29, Paul van Delst wrote:

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>> On 08/27/14 18:40, sjone7 wrote:

>

```
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>
>
>
> paulv
```

The orb object can be scaled anisotropically to turn it into an ellipsoid, without modifying the orb class itself.

```
IDL> o = orb()  
IDL> o.scale, 1., 1.5, 1.  
IDL> xobjview, o
```

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