
Subject: Re: 3D UserSym?

Posted by [David Fanning](#) on Mon, 03 Aug 2009 14:44:16 GMT

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Brian Daniel writes:

- > I created a 3D scatter plot and animated a rotation using
- > XInterAnimate. When I view the scatter plot in the Z vs XY plane
- > (through manipulating the Az and Ax keywords) my plot points disappear
- > because they are drawn in just 2 dimensions. Is there a way (maybe
- > with UserSym) to create 3D plot points?

No, it is not possible with USERSYM. If you are doing 3D things, you really want to do them in a 3D graphics system. That is, use object graphics, not direct graphics.

I used to have an example of a 3D scatter plot that used round pin-shaped symbols to locate the points. But I see this example program no longer works, because they have removed the SYMBOL keyword from the IDLgrPolyline object.

I really have no idea exactly how to do this at the moment, and I have no more time to play with it today. Perhaps someone else has a clue. But, in any case, I think object graphics is your only real solution, assuming we can figure out how it is done. :-)

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: 3D UserSym?

Posted by [Michael Galloy](#) on Mon, 03 Aug 2009 14:59:04 GMT

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David Fanning wrote:

- > I used to have an example of a 3D scatter plot that used
- > round pin-shaped symbols to locate the points. But I see
- > this example program no longer works, because they have

> removed the SYMBOL keyword from the IDLgrPolyline object.

SYMBOL should still be there:

~\$ idl

IDL Version 7.1, Mac OS X (darwin x86_64 m64). (c) 2009, ITT Visual Information Solutions

```
IDL> sym = obj_new('IDLgrSymbol', 4, size=0.1)
IDL> polyline = obj_new('IDLgrPolyline', findgen(10), findgen(10),
symbol=sym)
IDL> xobjview, polyline
```

Mike

--

www.michaelgalloy.com
Associate Research Scientist
Tech-X Corporation

Subject: Re: 3D UserSym?

Posted by [Brian Daniel](#) on Mon, 03 Aug 2009 14:59:07 GMT

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Thanks for you honesty. I'm extremely new to object graphics. Its a good reason to learn.

On Aug 3, 10:44 am, David Fanning <n...@dfanning.com> wrote:

> Brian Daniel writes:

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>> XInterAnimate. When I view the scatter plot in the Z vs XY plane
>> (through manipulating the Az and Ax keywords) my plot points disappear
>> because they are drawn in just 2 dimensions. Is there a way (maybe
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> Cheers,
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> David
>
> --
> David Fanning, Ph.D.
> Fanning Software Consulting, Inc.
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> Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: 3D UserSym?

Posted by [Michael Galloy](#) on Mon, 03 Aug 2009 15:45:42 GMT

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Brian Daniel wrote:

> Thanks for you honesty. I'm extremely new to object graphics. Its a
> good reason to learn.

Here's a start:

```
IDL> sphere = obj_new('Orb')
```

```
IDL> sym = obj_new('IDLgrSymbol', sphere, size=0.1)
```

```
IDL> poly = obj_new('IDLgrPolyline', findgen(10), findgen(10),  
symbol=sym)
```

```
IDL> xobjview, poly
```

You can write your own class instead of using Orb, but that might be good enough right now. Check out the properties of Orb.

Mike

--

www.michaelgalloy.com

Associate Research Scientist

Tech-X Corporation

Subject: Re: 3D UserSym?

Posted by [David Fanning](#) on Mon, 03 Aug 2009 16:21:00 GMT

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mgalloy writes:

> SYMBOL should still be there:

```
>
> ~$ idl
> IDL Version 7.1, Mac OS X (darwin x86_64 m64). (c) 2009, ITT Visual
> Information Solutions
>
> IDL> sym = obj_new('IDLgrSymbol', 4, size=0.1)
> IDL> polyline = obj_new('IDLgrPolyline', findgen(10), findgen(10),
> symbol=sym)
> IDL> xobjview, polyline
```

Humm. Well, I see it here on this machine. But I certainly didn't see it this morning. In my old example (which I don't have here, now!) I using passing the orb into the POLYLINE directly with SYMBOL. Perhaps I was misinterpreting the error message, as I see the orb now has to be a subclassed symbol object. Maybe mine wasn't.

Anyway, I'll have to figure it out tonight. If I'm successful, I have an example of a 3D scatterplot that uses this functionality. :-)

Cheers,

David

--

David Fanning, Ph.D.
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Subject: Re: 3D UserSym?

Posted by [Kenneth P. Bowman](#) on Mon, 03 Aug 2009 17:18:45 GMT

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In article <MPG.24e0a5a44f0ff7a998a749@news.giganews.com>, David Fanning <news@dfanning.com> wrote:

> Brian Daniel writes:

```
>
>> I created at 3D scatter plot and animated a rotation using
>> XInterAnimate. When I view the scatter plot in the Z vs XY plane
>> (through manipulating the Az and Ax keywords) my plot points disappear
>> because they are drawn in just 2 dimensions. Is there a way (maybe
>> with UserSym) to create 3D plot points?
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```
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> No, it is not possible with USERSYM. If you are doing
> 3D things, you really want to do them in a 3D graphics
> system. That is, use object graphics, not direct graphics.
```

>
> Cheers,
>
> David

Even the iTools, which are supposed to be 3-D graphics utilities, only support 2-D plotting symbols by default. You can provide a custom symbol with the SYM_OBJECT keyword, but it is a struggle for me to figure out how to do that. A beginner would be clueless.

I submitted a formal request to ITT to add the Platonic solids plus sphere as default plot symbols that could be referenced by index (without having to make your own object), but that obviously didn't make the cut.

Ken Bowman

Subject: Re: 3D UserSym?

Posted by [penteado](#) on Mon, 03 Aug 2009 21:00:59 GMT

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On Aug 3, 11:24 am, Brian Daniel <Daniels...@yahoo.com> wrote:

> I created a 3D scatter plot and animated a rotation using
> XInterAnimate. When I view the scatter plot in the Z vs XY plane
> (through manipulating the Az and Ax keywords) my plot points disappear
> because they are drawn in just 2 dimensions. Is there a way (maybe
> with UserSym) to create 3D plot points? Thanks!

An example of how to do it with iplot:

```
x=randomu(seed,100)
y=randomu(seed,100)
z=randomu(seed,100)
osph=obj_new('orb') ;sphere object to use as symbol
iplot,x,y,z,sym_object=osph,/scatter
```

One potential advantage is that the properties can be changed after the plot is made, and the plot reflects the changes. For instance, to change the color and radius:

```
osph->setproperty,color=[255,255,0],radius=2.0
```

Note that since the object is created by you, it will keep existing even after the iplot window is closed.

Subject: Re: 3D UserSym?

Posted by [David Fanning](#) on Tue, 04 Aug 2009 01:11:45 GMT

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David Fanning writes:

- > Anyway, I'll have to figure it out tonight. If I'm
- > successful, I have an example of a 3D scatterplot that
- > uses this functionality. :-)

I have updated by 3D scatterplot page to link to this object graphics example plot, named Scatter_Surface.

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

http://www.dfanning.com/tip_examples/scatter_surface.pro

The program will *certainly* need other programs from the Coyote Library:

<http://www.dfanning.com/documents/programs.html>

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

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Subject: Re: 3D UserSym?

Posted by [Brian Daniel](#) on Tue, 04 Aug 2009 14:26:08 GMT

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Wow! Great program. I'm still new to object IDL, but I think I have plenty to see me through. I'm fascinated that objects make so many things more functional. Thanks so much!

-Brian

PS - I've used the iTools package in the past, but the size of my data sets make the interaction really clunky. And again, being new to object-oriented stuff turned me off as well. If I start to drown in objects again, I may use iTools as a floatation device. Thanks for the tip, PP.

> http://www.dfanning.com/tip_examples/scatter_surface.pro

>
