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Subject: Re: Plot 3-D markers in iPlot

Posted by [David Fanning](#) on Fri, 10 Nov 2006 16:49:46 GMT

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Kenneth Bowman writes:

- > While I wait for Ronn Kling's book to arrive, perhaps someone can help me.
- >
- > iPlot's selection of marker types are all 2-dimensional. They look pretty
- > ugly in 3-D and disappear when viewed edge on(!). (I'll submit a feature
- > request to ITTVIS to see if they can add 3-D markers.)
- >
- > In the meantime, I would like to try to "manually" plot 3-D markers at selected
- > points. I have found several primitive solid objects through this group, but I
- > don't know much about object graphics, so it is not clear how to display them in
- > an existing iTool.
- >
- > Small spheres would be nice, and I don't need to display a lot of them,
- > so performance should not be an issue.

I'm not sure you will be any more enlightened when Ronn's book arrives, at least with respect to how to do this with an iTool. It's fairly straightforward to do it with object graphics, however. In fact, we were having this discussion just a day or so ago in a thread entitled "3D plotting". The example I showed used a Rick Towler object named RHTgrPSolid to produce a 3D tetrahedron that I used as symbols in that scatterplot.

Cheers,

David

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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.")

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Subject: Re: Plot 3-D markers in iPlot

Posted by [K. Bowman](#) on Fri, 10 Nov 2006 19:10:08 GMT

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In article <MPG.1fbe5b8c54f63e1d989db1@news.frii.com>, David Fanning <news@dfanning.com> wrote:

- > I'm not sure you will be any more enlightened when Ronn's
- > book arrives, at least with respect to how to do this with

- > an iTool. It's fairly straightforward to do it with object
- > graphics, however. In fact, we were having this discussion
- > just a day or so ago in a thread entitled "3D plotting".
- > The example I showed used a Rick Towler object named
- > RHTgrPSolid to produce a 3D tetrahedron that I used
- > as symbols in that scatterplot.

Yes, I had already found that, but was not clear on how to get a symbol object into an iTool. A lot of trial and error led to this, which will work for me:

```
x = [0.0, 10.0] ;Make some test data
y = x
z = x

iPlot, x, y, z, /NO_SAVEPROMPT ;iPlot the data
itool_id = itGetCurrent(TOOL = itool_obj) ;Get the iTool object identifier

orb_obj = OBJ_NEW('orb', COLOR=[240,0,0], STYLE=1, DENSITY=3.0) ;Make an orb
object
orb_obj -> Scale, 1.0, 1.0, 1.0/0.7 ;Undo default 3-D scaling (z = 70%)
symbol_obj = OBJ_NEW('IDLgrSymbol', orb_obj, Size=[0.25, 0.25, 0.25]) ;Make a symbol
object
polyline_obj = OBJ_NEW('IDLgrPolyline', [4.0, 5.0], [4.0, 5.0], [4.0, 5.0], $ ;Create a polyline
object with symbols
LINESTYLE = 6, SYMBOL = symbol_obj)

data_space_id = itool_obj -> FindIdentifiers('*DATA SPACE', /VISUALIZATIONS) ;Find the data
space id
data_space_obj = itool_obj -> GetByIdentifier(data_space_id) ;Find the data space
object reference
data_space_obj -> Add, polyline_obj ;Add the polyline to the data
space
```

So, I can create an orb object and use that to make a symbol object.

A symbol object cannot be plotted directly (as best I can see), but it can be used as the marker for a polyline. The polyline can be added into the iTool's data space.

Since a polyline has to have at least two points, it is not possible to plot a single symbol. Of course, the end points can be the same point. This seems slightly silly to me, but there you go.

Ken