Subject: Re: slicer3 for a series of plots
Posted by David Fanning on Thu, 07 Apr 2005 19:47:56 GMT
View Forum Message <> Reply to Message

David Jackson writes:

> I'm an occasional IDL user (read novice) and I've come across something that
> I can't figure out how to do at first glance (I haven't given this tons of
> thought yet). I've used the plot command to make a series of graphs and
> then used Xinteranimate to animate this series. This works just fine. What
> I'd like to do is to take this series of graphs and somehow stack them up
> and view them with the slicer3 program (or some other slicer type program).

You know what? I would give this a LOT more thought! :-)

Why exactly does this seem like a good idea to you?
What you would be trying to demonstrate with it? What
is it you imagine you would see if you did something like this?

> It seems as though I will first need to save these graphs as image files and
> then read in the image files in the appropriate way to do this. Is this
> true or is there an easier way? Any help would be much appreciated.

I think it will turn out to be something like this, yes, assuming
you go through with it.

> If the answer to this is completely obvious, I apologize in advance.

Not to me, it isn't. :-)

Cheers,

David

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

Subject: Re: slicer3 for a series of plots
Posted by David Jackson on Fri, 08 Apr 2005 12:16:02 GMT
View Forum Message <> Reply to Message

>> I'm an occasional IDL user (read novice) and I've come across something
that
>> I can't figure out how to do at first glance (I haven't given this tons

of
>> thought yet). I've used the plot command to make a series of graphs and
>> then used Xinteranimate to animate this series. This works just fine.
What
>> I'd like to do is to take this series of graphs and somehow stack them
up
>> and view them with the slicer3 program (or some other slicer type
program).
>
> You know what? I would give this a LOT more thought! :-)
>
> Why exactly does this seem like a good idea to you?
> What you would be trying to demonstrate with it? What
> is it you imagine you would see if you did something like this?

Well...the 2-D plots I've made actually correspond (physically) to slices in a 3-D volume and I'm trying to come up with a way of demonstrating this to students. It is a little abstract to just say "this is a slice of a 3-D volume" and I think the point is made much better if you can actually show that you are physically taking a slice of a 3-D volume. I know that the actual image slice will look the same either way.

>> It seems as though I will first need to save these graphs as image files
and
>> then read in the image files in the appropriate way to do this. Is this
>> true or is there an easier way? Any help would be much appreciated.
>
> I think it will turn out to be something like this, yes, assuming
> you go through with it.

Well, I'll go through with it as long as it is not a complete pain the neck.

David

---

Subject: Re: slicer3 for a series of plots
Posted by David Jackson on Fri, 08 Apr 2005 12:47:40 GMT
View Forum Message <> Reply to Message

Hi all,

I received a few responses to my question suggesting that perhaps I wasn't completely clear in my original post. Let me try to be a little clearer.

Let's assume I have data for a 3-D trajectory in space and I use xplot3d to look at this space curve. Now assume I have several hundred of these trajectories and I use xplot3d to look at them. The result is a very nice 3-D plot that I can manipulate but because there are so many trajectories,

it is somewhat difficult to see what's going on.  Thus, I would LIKE to be
able to essentially use a slicer type program to see where these
trajectories intersect a moveable plane.

The best I've been able to do is to use the plot command to make 2-D images
for each of the separate planes and then animate them as if the slice was
being "moved up the cube".  This works really well but I would prefer that I
have an actual cube with a slice that I can manipulate so that it
demonstrates that these are really slices from a 3-D volume.

David

---

Subject: Re: slicer3 for a series of plots
Posted by David Fanning on Fri, 08 Apr 2005 13:13:29 GMT
View Forum Message <> Reply to Message

David Jackson writes:

> I received a few responses to my question suggesting that perhaps I wasn't
> completely clear in my original post.  Let me try to be a little clearer.

Well, as I understand it now, what you are after is an
effective way to *present* the information, not do some
science. That makes more sense to me. :-)
>
> Let's assume I have data for a 3-D trajectory in space and I use xplot3d to
> look at this space curve.  Now assume I have several hundred of these
> trajectories and I use xplot3d to look at them.  The result is a very nice
> 3-D plot that I can manipulate but because there are so many trajectories,
> it is somewhat difficult to see what's going on.  Thus, I would LIKE to be
> able to essentially use a slicer type program to see where these
> trajectories intersect a moveable plane.
>
> The best I've been able to do is to use the plot command to make 2-D images
> for each of the separate planes and then animate them as if the slice was
> being "moved up the cube".  This works really well but I would prefer that I
> have an actual cube with a slice that I can manipulate so that it
> demonstrates that these are really slices from a 3-D volume.

Ah, I see. How well do you know object graphics?
Here is a fairly simple program that illustrates
the concept I think you are after:

   http://www.dfanning.com/misc/surf_contour.pro

It allows you to move a "slice" through a surface and
see the "contour" at that location.

You will want something similar, I think, and it may
pay to start with the XPLOT3D code itself. Add your
"slice", which will be a polygon, and use your 2D images
as texture maps on that polygon.

Assuming you can understand the XPLOT3D code (not
always a given with RSI-supplied code, although this
seems relatively straightforward to me), this could
be a fairly easy modification to make.

Cheers,

David

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

---