Subject: Re: Save 2D conversion matrix
Posted by Benjamin Hornberger on Mon, 07 Nov 2005 15:38:16 GMT
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Peter Albert wrote:
> Hi all,
>
> I am currently working on the display of climate datasets. One window
> shows a map with e.g. some monthly mean values. My plan now is to let
> the user pick a location using CURSOR, and then to display a time
> series at the chosen point in a second window. O.k., I can get the
> latitude / longitude of the chosen point using CONVERT_COORD, then I
> can pick the appropriate time series and plot it in the second window.
> However, if I am now going back to the map window, the correlation
> between device and data coordinates is of course gone. If it was 3D
> data, I would use T3D, but this is plain 2D data and don't see the
> appropriate feature in the documentation. Any help which would save me
> from re-drawing this map over and over again would be appreciated.
>
> N.b. this is all done using direct graphics. Is this finally the reason
> to go ahead and read the manual about OO graphics?
>
> Cheers,
>
> Peter
>

I use the routines savesysvar.pro and restsysvar.pro from the FZ Juelich
library
(http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_lib_intro. html) to
save the corresponding system variables. Right after plotting, do
savesysvar, right before calling convert_coord do restsysvar.

Benjamin

Subject: Re: Save 2D conversion matrix
Posted by Antonio Santiago on Mon, 07 Nov 2005 16:04:36 GMT
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Peter Albert wrote:
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>
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>
> Cheers,
>
> Peter
>

Hi Peter,
I don't know if this is the reason to read about Object Grpahics, I
haven't almost anithing knowledge about Direct Graphics but for the kind
of applications I am developing in IDL, the Object Grpahics is perfect.

Bye.

--

Antonio Santiago Pï¿½rez
(email: santiago<<at>>grahi.upc.edu)
(www: http://www.grahi.upc.edu/santiago)
(www: http://asantiago.blogsite.org)

Grup de Recerca Aplicada en Hidrometeorologia (GRAHI)
Universitat Politï¿½cnica de Catalunya
Barcelona - SPAIN
---
http://www.grahi.upc.edu

Subject: Re: Save 2D conversion matrix
Posted by David Fanning on Mon, 07 Nov 2005 16:25:20 GMT
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Peter Albert writes:

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> to go ahead and read the manual about OO graphics?

Object graphics is certainly overkill, but I would suggest
you learn a little widget programming (seriously, the CURSOR
command!? Sigh...).

Benjamin's suggestion to save and restore the system variables
is a good one, but it has always struck me as inelegant. Which
variables, after all, did you really need to restore the
coordinate system? It surely couldn't be ALL of them!

So I spent a couple of days experimenting until I found out which
ones I needed. (I was actually trying to find out which ones
had to be set so I could establish a data coordinate system without
going to the trouble of actually drawing a plot.) It turns out
that these four pieces of information are needed to establish
the data coordinate system: !X.S, !Y.S, !X.Window, and !Y.Window.
Plus, the current window has to be the one your plot is in. (Not
a given, always, in widget programming unless you explicitly
make it so.)

I found out that I could easily establish a data coordinate
system for *any* window if I knew the X and Y range of the
coordinate system and the location of the coordinate system
in the window (i.e., its position). (I simply constructed the
scaling parameters normally found in !X.S and !Y.S from the
range and position.)

So, even if you still save *everything*, it feels good
to know what it is in that mess you really need. :-)

Cheers,

David

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

Subject: Re: Save 2D conversion matrix
Posted by Paolo Grigis on Mon, 07 Nov 2005 18:02:21 GMT
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David Fanning wrote:
> Peter Albert writes:
>
>
>> I am currently working on the display of climate datasets. One window
>> shows a map with e.g. some monthly mean values. My plan now is to let
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> coordinate system and the location of the coordinate system
> in the window (i.e., its position). (I simply constructed the
> scaling parameters normally found in !X.S and !Y.S from the
> range and position.)

In order to achieve the same purpose (that is, setting a coordinate system in a fresh window), I was using this kind of statements:

 plot,[0,0],xrange=[3,5],yrange=[7,9],xstyle=8+4+1,ystyle=8+4
+1,xmargin=[0,0],ymargin=[0,0],/nodata

I don't know if I should feel ashamed for not using the elegant way with !XY.S & !XY.Window or proud for having found a viable solution to the problem in a few minutes instead of "a couple of days experimenting" ;-)

Ciao,
Paolo

>
> So, even if you still save *everything*, it feels good
> to know what it is in that mess you really need. :-)
>
> Cheers,
>
> David
>

Subject: Re: Save 2D conversion matrix
Posted by David Fanning on Mon, 07 Nov 2005 18:44:27 GMT
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Paolo Grigis writes:

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>
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+1,xmargin=[0,0],ymargin=[0,0],/nodata
>
> I don't know if I should feel ashamed for not using the elegant
> way with !XY.S & !XY.Window or proud for having found a viable
> solution to the problem in a few minutes instead of "a couple of
> days experimenting" ;-)

Yeah, that's what I used to do, too. But when you don't really have a life outside of IDL, this is the kind of thing you get obsessed about. :-)

Cheers,

David

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

Subject: Re: Save 2D conversion matrix
Posted by R.Bauer on Mon, 07 Nov 2005 20:19:34 GMT
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David Fanning wrote:

> Peter Albert writes:
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> coordinate system? It surely couldn't be ALL of them!
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> in the window (i.e., its position). (I simply constructed the
> scaling parameters normally found in !X.S and !Y.S from the
> range and position.)
>
> So, even if you still save *everything*, it feels good
> to know what it is in that mess you really need. :-)
>
> Cheers,
>
> David
>

Hi David,

sometimes we would need !x.type of value 3 too. e.g. if we want to use Map_Continents again. And probably we would need some more from !map, from !p the transformation matrices and so on.

cheers
Reimar

Subject: Re: Save 2D conversion matrix
Posted by David Fanning on Tue, 08 Nov 2005 02:48:31 GMT
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Reimar Bauer writes:

> sometimes we would need !x.type of value 3 too. e.g. if we want to use
> Map_Continents again. And probably we would need some more from !map,
> from !p the transformation matrices and so on.

Oh, well, sure. But I didn't know we were talking about mapping continents. I thought we were talking about standard XY line plots. :-)

Cheers,

David

P.S. Maybe some day I'll give my lecture on log plots. :-)
--
David Fanning, Ph.D.

Subject: Re: Save 2D conversion matrix
Posted by peter.albert@gmx.de on Tue, 08 Nov 2005 07:20:07 GMT
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Hi David,

thanks a lot, that (and Reimars !x.type) was exactly what I needed!

> Object graphics is certainly overkill, but I would suggest
> you learn a little widget programming (seriously, the CURSOR
> command!? Sigh...).

Aehmm, well, this *is* part of a widget ... But now that you mention it, TRACKING_EVENTS of a draw widget might also work ... But that would mean that I have to drop the WIDGET_TIMER events now that I finally managed to use them ... :-)

But still the original problem is the same, and I much appreciate the given help!

Cheers,

Peter

Subject: Re: Save 2D conversion matrix
Posted by peter.albert@gmx.de on Tue, 08 Nov 2005 07:21:03 GMT
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Hi Benjamin,

thanks a lot. Yet another very useful routine...

Cheers,

Peter

Subject: Re: Save 2D conversion matrix
Posted by peter.albert@gmx.de on Tue, 08 Nov 2005 07:23:33 GMT
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Hi Paolo,

I wasn't probably clear enough when describing the problem. I am not displaying two x/y plots but one map and one plot. Anyway, with David's and Reimar's hint to the correct system variables, it works just fine.

Thanks anyway,

Peter

Subject: Re: Save 2D conversion matrix
Posted by peter.albert@gmx.de on Tue, 08 Nov 2005 07:24:31 GMT
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Hi Reimar,

thanks a lot, thatÄs just the missing bit!

Cheers,

Peter
