Subject: Contour plots / ps files
Posted by Simon Webster on Sat, 14 Oct 2000 07:00:00 GMT
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Hi,

When I create postscript files of filled contour plots using:

IDL> set_plot, 'ps'
IDL> contour, gradav, depth, opac, /irregular, /fill, xrange=[-70,10],
xstyle=1

then the postscript file has 'filled' the area with the highest points
the same colour as the area with the lowest by leaving both blank.

see:
http://users.ox.ac.uk/~sjoh0776/screenshot.gif
http://users.ox.ac.uk/~sjoh0776/contour.ps

How can I force idl to colour both area differently from the background?

thanks in advance for any help,

simon

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Subject: Re: contour plots
Posted by David Fanning on Thu, 05 Aug 2004 13:18:09 GMT
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Hans Clarke writes:

> I'm new to idl and I have data for variables f, g and h. How do I
> read the data in for all the variables and then make a contour plot?

You must be one of those guys who don't like
to read manuals. :-)

But tell us more. The names of your variables
are, uh, cryptic. What kind of data is this?
How is it stored on disk? How much data is
there? Etc, etc.

Alas, programming has more to do with digging

ditches than it does with magic. :-)

Cheers,

David

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

Subject: Re: contour plots
Posted by R.G. Stockwell on Thu, 05 Aug 2004 15:47:01 GMT
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"Hans Clarke" <hans.clarke@maths.monash.edu.au> wrote in message
news:b79ec811.0408050113.583fcb3@posting.google.com...
> I'm new to idl and I have data for variables f, g and h. How do I
> read the data in for all the variables and then make a contour plot?

Check out the quickstart guide for idl. Very fast to read and learn,
and very useful for newbies with questions like this.

Cheers,
bob

Subject: Re: contour plots
Posted by hans.clarke on Fri, 06 Aug 2004 03:02:16 GMT
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David Fanning <davidf@dfanning.com> wrote in message
news:<MPG.1b7be1818f3c82fe98980b@news.frii.com>...
> Hans Clarke writes:
>
>> I'm new to idl and I have data for variables f, g and h. How do I
>> read the data in for all the variables and then make a contour plot?
>
> You must be one of those guys who don't like
> to read manuals. :-)
>
> But tell us more. The names of your variables
> are, uh, cryptic. What kind of data is this?
> How is it stored on disk? How much data is

> there? Etc, etc.
>
> Alas, programming has more to do with digging
> ditches than it does with magic. :-)
>
> Cheers,
>
> David

Thanks for the reply, David

Here is some data, which I have stored in Excel:

f	Period	Gamma
6.8	15.7	0.01
7	9.9	0.04
7.5	6.1	0.17
8	4.8	0.34
8.5	4	0.56
9	3.5	0.81
9.5	3.1	1.12
10	2.9	1.49
10.5	2.6	1.94
11	2.4	2.52
11.5	2.3	3.29
12	2.1	4.39
12.5	2	6.26
13	1.9	11.05
13.3	1.9	37.16

I want to plot, for different f surfaces, Period and Gamma. There is probably four times as much data (60 data sets).

Thanks
Hans

Subject: Re: contour plots
Posted by David Fanning on Fri, 06 Aug 2004 04:04:42 GMT
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Hans Clarke writes:

> Here is some data, which I have stored in Excel:
>
> f Period Gamma

> 6.8 15.7 0.01
> 7 9.9 0.04
> 7.5 6.1 0.17
> 8 4.8 0.34
> 8.5 4 0.56
> 9 3.5 0.81
> 9.5 3.1 1.12
> 10 2.9 1.49
> 10.5 2.6 1.94
> 11 2.4 2.52
> 11.5 2.3 3.29
> 12 2.1 4.39
> 12.5 2 6.26
> 13 1.9 11.05
> 13.3 1.9 37.16
>
> I want to plot, for different f surfaces, Period and Gamma. There is
> probably four times as much data (60 data sets).

Well, assuming you have saved this in a comma
delimited text file, with the first line a header
line, and that you plan to contour the gamma
value and use f as the Y value and period as
the X value, I would do something like this:

```
OpenR, lun, 'yourfile.dat', /Get_Lun
rows = File_Lines('yourfile.dat)
header = ''
data = FltArr(3,rows-1)
ReadF, lun, header, data
Free_Lun, lun
f = Reform(data[0,*])
period = Reform(data[1,*])
gamma = Reform(data[2,*])
Contour, gamma, period, f, /Irregular, NLevels=10
```

That should get you started, I guess. :-)

Cheers,

David

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

Subject: Re: contour plots
Posted by hans.clarke on Sun, 08 Aug 2004 08:03:35 GMT
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David Fanning <davidf@dfanning.com> wrote in message
news:<MPG.1b7cb14493f27fce989813@news.frii.com>...
> Hans Clarke writes:
>
>> Here is some data, which I have stored in Excel:
>>
>> f Period Gamma
>> 6.8 15.7 0.01
>> 7 9.9 0.04
>> 7.5 6.1 0.17
>> 8 4.8 0.34
>> 8.5 4 0.56
>> 9 3.5 0.81
>> 9.5 3.1 1.12
>> 10 2.9 1.49
>> 10.5 2.6 1.94
>> 11 2.4 2.52
>> 11.5 2.3 3.29
>> 12 2.1 4.39
>> 12.5 2 6.26
>> 13 1.9 11.05
>> 13.3 1.9 37.16
>>
>> I want to plot, for different f surfaces, Period and Gamma. There is
>> probably four times as much data (60 data sets).
>
> Well, assuming you have saved this in a comma
> delimited text file, with the first line a header
> line, and that you plan to contour the gamma
> value and use f as the Y value and period as
> the X value, I would do something like this:
>
> OpenR, lun, 'yourfile.dat', /Get_Lun
> rows = File_Lines('yourfile.dat)
> header = ''
> data = FltArr(3,rows-1)
> ReadF, lun, header, data
> Free_Lun, lun
> f = Reform(data[0,*])
> period = Reform(data[1,*])
> gamma = Reform(data[2,*])
> Contour, gamma, period, f, /Irregular, NLevels=10
>
> That should get you started, I guess. :-)
>

> Cheers,
>
> David

That's great, thanks David

Hans

Subject: Re: contour plots
Posted by hans.clarke on Mon, 09 Aug 2004 06:57:29 GMT
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David Fanning <davidf@dfanning.com> wrote in message
news:<MPG.1b7cb14493f27fce989813@news.frii.com>...
> Hans Clarke writes:
>
>> Here is some data, which I have stored in Excel:
>>
>> f Period Gamma
>> 6.8 15.7 0.01
>> 7 9.9 0.04
>> 7.5 6.1 0.17
>> 8 4.8 0.34
>> 8.5 4 0.56
>> 9 3.5 0.81
>> 9.5 3.1 1.12
>> 10 2.9 1.49
>> 10.5 2.6 1.94
>> 11 2.4 2.52
>> 11.5 2.3 3.29
>> 12 2.1 4.39
>> 12.5 2 6.26
>> 13 1.9 11.05
>> 13.3 1.9 37.16
>>
>> I want to plot, for different f surfaces, Period and Gamma. There is
>> probably four times as much data (60 data sets).
>
> Well, assuming you have saved this in a comma
> delimited text file, with the first line a header
> line, and that you plan to contour the gamma
> value and use f as the Y value and period as
> the X value, I would do something like this:
>
> OpenR, lun, 'yourfile.dat', /Get_Lun
> rows = File_Lines('yourfile.dat)
> header = ''

>   data = FltArr(3,rows-1)
>   ReadF, lun, header, data
>   Free_Lun, lun
>   f = Reform(data[0,*])
>   period = Reform(data[1,*])
>   gamma = Reform(data[2,*])
>   Contour, gamma, period, f, /Irregular, NLevels=10
>
> That should get you started, I guess. :-)
>
> Cheers,
>
> David

Hi again. It works, so thanks, David.

I also want to know how to transfer the generated plot to a postscript file. Can you help me?

Hans

Subject: Re: contour plots
Posted by hans.clarke on Mon, 09 Aug 2004 07:00:20 GMT
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David Fanning <davidf@dfanning.com> wrote in message news:<MPG.1b7cb14493f27fce989813@news.frii.com>...
> Hans Clarke writes:
>
>> Here is some data, which I have stored in Excel:
>>
>> f Period Gamma
>> 6.8 15.7 0.01
>> 7 9.9 0.04
>> 7.5 6.1 0.17
>> 8 4.8 0.34
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>> 11.5 2.3 3.29
>> 12 2.1 4.39
>> 12.5 2 6.26
>> 13 1.9 11.05

>> 13.3 1.9 37.16
>>
>> I want to plot, for different f surfaces, Period and Gamma. There is
>> probably four times as much data (60 data sets).
>
> Well, assuming you have saved this in a comma
> delimited text file, with the first line a header
> line, and that you plan to contour the gamma
> value and use f as the Y value and period as
> the X value, I would do something like this:
>
> OpenR, lun, 'yourfile.dat', /Get_Lun
> rows = File_Lines('yourfile.dat)
> header = ''
> data = FltArr(3,rows-1)
> ReadF, lun, header, data
> Free_Lun, lun
> f = Reform(data[0,*])
> period = Reform(data[1,*])
> gamma = Reform(data[2,*])
> Contour, gamma, period, f, /Irregular, NLevels=10
>
> That should get you started, I guess. :-)
>
> Cheers,
>
> David

Hi again, David

Can you also tell me how I modify this to see a 2D plot for f vs. gamma?

Thanks

Hans

Subject: Re: contour plots
Posted by David Fanning on Mon, 09 Aug 2004 13:15:32 GMT
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Hans Clarke writes:

> I also want to know how to transfer the generated plot to a postscript
> file. Can you help me?

Well, just execute the commands after you have switched
to the PostScript device driver:

```
thisDevice = !D.Name
Set_Plot, 'PS'
Device, Filename='myplot.ps'

 OpenR, lun, 'yourfile.dat', /Get_Lun
 rows = File_Lines('yourfile.dat)
 header = ''
 data = FltArr(3,rows-1)
 ReadF, lun, header, data
 Free_Lun, lun
 f = Reform(data[0,*])
 period = Reform(data[1,*])
 gamma = Reform(data[2,*])
 Contour, gamma, period, f, /Irregular, NLevels=10

Device, /Close_File
Set_Plot, thisDevice
```

There are lots of things to know about configuring
the PostScript device with the DEVICE command, but
I typically just use my program PSCONFIG to allow
the user to do it interactively. Saves a lot of
wear and tear. :-)

```
keywords = PSConfig(Cancel=cancelled)
IF cancelled then RETURN
thisDevice = !D.Name
Set_Plot, 'PS'
Device, _Extra=keywords
```

You can find the programs for PSCONFIG here:

http://www.dfanning.com/programs/psconfig.zip

Cheers,

David

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

Subject: Re: contour plots
Posted by David Fanning on Mon, 09 Aug 2004 13:16:42 GMT

Hans Clarke writes:

> Can you also tell me how I modify this to see a 2D plot for f vs. gamma?

Well, I'd try:

  Plot, f, gamma

Instead of the contour plot. :-)

Cheers,

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

Subject: Re: contour plots
Posted by hans.clarke on Tue, 10 Aug 2004 04:47:02 GMT

David Fanning <davidf@dfanning.com> wrote in message
news:<MPG.1b812727ec92d218989818@news.frii.com>...
> Hans Clarke writes:
>
>> Can you also tell me how I modify this to see a 2D plot for f vs. gamma?
>
> Well, I'd try:
>
> Plot, f, gamma
>
> Instead of the contour plot. :-)
>
> Cheers,
>
> David

Hi David.

Sorry, one more question. How can I rewrite the original program to see a surface plot. I have tried Surface, gamma, period, f etc but it says I can't use 'Irregular or Nlevels and the array gamma must have 2 dimensions.

I really apprectiate your help

Hans