Subject: Axis issues, cgSurf and cgContour
Posted by sam.tushaus on Fri, 27 Feb 2015 18:40:59 GMT

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Hello! I've been attempting to plot contour data and data on a surface using cgContour and cgSurf, respectively. In both cases I've had issues with the axes. The general form of each command is as follows:

   cgContour, data, x, y
   cgSurf, data, x, y

Unfortunately, actually inserting something for x and y above hasn't been working out for me. In cgContour, I get a jumbled mess of contours that only vaguely resembles the actual data; in cgSurf, I get only a thin cylinder in the middle of the plot. Plotting without using x and y creates the proper plots, but requires forcing my axes, which can be tedious to program when handling large quantities of data and large numbers of plots (which I need to automate).

Does anyone have experience with this issue? Any fixes? I've tried switching x and y, switching the dimensions of my x and y arrays, using vectors vs 2D arrays...but I've gotten nowhere so far.

Thanks for your help!

Subject: Re: Axis issues, cgSurf and cgContour
Posted by David Fanning on Fri, 27 Feb 2015 18:48:22 GMT

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sam.tushaus@gmail.com writes:

> Hello! I've been attempting to plot contour data and data on a surface using cgContour and cgSurf, respectively. In both cases I've had issues with the axes. The general form of each command is as follows:
>   cgContour, data, x, y
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>
> Does anyone have experience with this issue? Any fixes? I've tried switching x and y, switching the dimensions of my x and y arrays, using vectors vs 2D arrays...but I've gotten nowhere so far.

I have no idea what "forcing my axes" means, but if the commands work
when you don't specify X and Y values, I presume this means when you do
provide them you are doing so incorrectly. But, I really can't tell from
the evidence you have presented.

Cheers,

David
--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: Axis issues, cgSurf and cgContour
Posted by wlandsman on Fri, 27 Feb 2015 19:00:04 GMT
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On Friday, February 27, 2015 at 1:41:01 PM UTC-5, sam.t...@gmail.com wrote:

>   cgContour, data, x, y
>   cgSurf, data, x, y
> Unfortunately, actually inserting something for x and y above hasn't been working out for me. In cgContour, I get a jumbled mess of contours that only vaguely resembles the actual data;

If your x,y values are not monotonic, it would screw up the appearance of the contour.

If your x,y values are monotonic try a couple of diagnostic tests:

1. Does cgContour work with a simple example?
    IDL> cgcontour,dist(20),indgen(20)+50,indgen(20)-100

2. Try replacing cgContour with Contour and see if you still have the problem

---

Subject: Re: Axis issues, cgSurf and cgContour
Posted by sam.tushaus on Fri, 27 Feb 2015 19:09:45 GMT
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On Friday, February 27, 2015 at 12:48:25 PM UTC-6, David Fanning wrote:
>
>
>> Hello! I've been attempting to plot contour data and data on a surface using cgContour and cgSurf, respectively. In both cases I've had issues with the axes. The general form of each command is as follows:
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>> Unfortunately, actually inserting something for x and y above hasn't been working out for me. In cgContour, I get a jumbled mess of contours that only vaguely resembles the actual data; in cgSurf, I get only a thin cylinder in the middle of the plot. Plotting without using x and y creates the proper plots, but requires forcing my axes, which can be tedious to program when handling large quantities of data and large numbers of plots (which I need to automate).
>>

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> when you don't specify X and Y values, I presume this means when you do
> provide them you are doing so incorrectly. But, I really can't tell from
> the evidence you have presented.
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> Cheers,
>
> David
> --
> David Fanning, Ph.D.
> Fanning Software Consulting, Inc.
> Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
> Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Sorry - by forcing the axes, I mean that I need to suppress them and then specify axis labels. This can get pretty tedious since I want to automate the process, and I don't often have whole numbers to use on the axis. Here's what I want to plot using cgSurf:

data = elevation [25,320]
x = longitude [25,320]
y = latitude [25,320]

I've tried "cgSurf, data, x, y" and "cgSurf, data, y, x", as well as something to the effect of "cgSurf, data, x[1,*], y[1,*]"...but as I type that out, I'm realizing that I was thinking about it wrong. I needed to do "cgSurf, data, x[*,1], y[1,*]" to match dimensions.

However, I still have issues with cgContour. In that case, I've got:

data = reflectivity [1440,31]
x = time [1440]
y = height [1440,31] (or [31] if I just use one row of data)

I've tried everything I can think of to plot this, but I've had no luck.

Subject: Re: Axis issues, cgSurf and cgContour
Posted by David Fanning on Fri, 27 Feb 2015 20:00:03 GMT
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sam.tushaus@gmail.com writes:

> Sorry - by forcing the axes, I mean that I need to suppress them and then specify axis labels. This can get pretty tedious since I want to automate the process, and I don't often have whole numbers to use on the axis. Here's what I want to plot using cgSurf:

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> data = elevation [25,320]
> x = longitude [25,320]
> y = latitude [25,320]
>
> I've tried "cgSurf, data, x, y" and "cgSurf, data, y, x", as well as something to the effect of
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> However, I still have issues with cgContour. In that case, I've got:
>
> data = reflectivity [1440,31]
> x = time [1440]
> y = height [1440,31] (or [31] if I just use one row of data)
>
> I've tried everything I can think of to plot this, but I've had no luck.

Are you sure your [31] array is a row vector and not a column vector
[1,31], which would NOT work. That seems to be the simplest explanation,
because what you SAY you are doing would work perfectly well. :-)

Cheers,

David
--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
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Subject: Re: Axis issues, cgSurf and cgContour
Posted by David Fanning on Fri, 27 Feb 2015 22:05:52 GMT
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sam.tushaus@gmail.com writes:

> Unfortunately no luck to that end, I just get a plot that looks striated and constant in x.

Well, my gut tells me there is nothing wrong with the code. It has been
working for people for over 25 years. We would have heard about it by
now if there was a problem.

I'm guessing you are making assumptions about your data that are just
not true. I'd start questioning and testing everything, so you are
certain you know what you are doing.

Cheers,

David
--
David Fanning, Ph.D.
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