
Subject: Re: cursor command
Posted by [gpeterso](#) on Tue, 02 Apr 2013 17:57:36 GMT
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On Tuesday, April 2, 2013 10:04:49 AM UTC-7, gpet...@ucsc.edu wrote:
> Can you use the cursor command on a 2d contour map?

Could anyone explain how this procedure works.I am not really finding anything on the internet.

Subject: Re: cursor command
Posted by [Russell Ryan](#) on Tue, 02 Apr 2013 18:04:48 GMT
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On Tuesday, April 2, 2013 1:57:36 PM UTC-4, gpet...@ucsc.edu wrote:
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Cursor is a way of grabbing an (x,y) coordinate pair from the mouse action. You have options on when (x,y) is returned, for example is it returned when you press the mouse button, when you release the button, or move the mouse, etc. (as set by the wait variable). The (x,y) pair will be returned in whatever units you like (whether normal, device, or data), which is useful depending on your purpose.

http://www.exelisvis.com/docs/CURSOR_Procedure.html

As for your question about contour. I assume you're using the contour procedure (as opposed to the contour function). In which case, what you do next depends on what you want from the (x,y) pair --- and I can't answer that for you. Do you want the value of the contour plot? or do you want the position of the plot (in the window)? The answer to these questions (and other related ones), will dictate how you set the wait variable and the units you use (though you can change the units using `convert_coords` afterward, should you need all the units for some reason).

Good luck,
Russell

Subject: Re: cursor command
Posted by [gpeterso](#) on Tue, 02 Apr 2013 18:42:51 GMT
[View Forum Message](#) <> [Reply to Message](#)

On Tuesday, April 2, 2013 11:04:48 AM UTC-7, rr...@stsci.edu wrote:

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openr, lun, 'arial.txt', /get_lun

data=dindgen(824,914)
readf, lun, data

close,lun

rotatedata=ROTATE(data,2)

window, 1, retain=2

While (!mouse.button Ne 4) DO BEGIN
cursor, data, /device

contour, rotatedata
ENDWHILE

end

The error I receive is: CURSOR: Incorrect number of arguments.

I am not sure what to do with this.

Subject: Re: cursor command
Posted by on Tue, 02 Apr 2013 19:01:40 GMT
[View Forum Message](#) <> [Reply to Message](#)

Den tisdagen den 2:e april 2013 kl. 19:42:51 UTC+1 skrev gpet...@ucsc.edu:

>
> cursor, data, /device
> [...]
> The error I receive is: CURSOR: Incorrect number of arguments.
>
> I am not sure what to do with this.

Maybe add the missing argument?

From the web page linked to above:

CURSOR, X, Y, /DEVICE

Subject: Re: cursor command
Posted by [Russell Ryan](#) on Tue, 02 Apr 2013 19:04:50 GMT
[View Forum Message](#) <> [Reply to Message](#)

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(1) Of course you get an error. Did you read the webpage I sent you? It says that cursor has two

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Subject: Re: cursor command
Posted by [gpeterso](#) on Tue, 02 Apr 2013 23:41:48 GMT
[View Forum Message](#) <> [Reply to Message](#)

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>> readf, lun, data
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>> rotatedata=ROTATE(data,2)
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>> ENDWHILE
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Okay, let me give you a summary of what I am trying to accomplish. I have created a contour plot from a 2 dimensional data set. Now I am trying to take image profiles of this data. So far the only way for me to get a profile is by just looking at my graph and estimating where the starting x and y

locations and the ending x and y locations, thus I am trying to be more accurate using cursor.

I think my question lies on how to properly separate the x and the y values from the 2d data array.
I have done this

```
openr, lun, 'arial.txt', /get_lun
```

```
data=dindgen(824,914)  
readf, lun, data  
close,lun
```

```
For i=0, 823 Do Begin  
FOR j=0, 913 Do Begin  
x=data(i,*)  
y=data(*,j)  
endfor  
endfor
```

```
window, 1, retain=2
```

```
contour, rotatedata
```

```
While (!mouse.button Ne 4) DO BEGIN  
cursor, x, y, /data
```

```
ENDWHILE
```

However, when I try this nothing happens.

On the website you gave me I am not sure what this does in the example code they provide?
could this be one section I am doing wrong?

```
PLOTS,[X,X1], [Y,Y1], /NORMAL
```

```
X = X1 & Y = Y1
```

Thanks, Georgia

Subject: Re: cursor command

Posted by on Wed, 03 Apr 2013 00:23:08 GMT

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Den onsdagen den 3:e april 2013 kl. 00:41:48 UTC+1 skrev gpet...@ucsc.edu:

>

> Okay, let me give you a summary of what I am trying to accomplish. I have created a contour plot from a 2 dimensional data set. Now I am trying to take image profiles of this data. So far the only way for me to get a profile is by just looking at my graph and estimating where the starting x and y locations and the ending x and y locations, thus I am trying to be more accurate using cursor.

I don't know what you mean by "image profile", but let's go through the program you've written:

> I think my question lies on how to properly separate the x and the y values from the 2d data array. I have done this

>

> openr, lun, 'arial.txt',/get_lun

> data=dindgen(824,914)

> readf, lun, data

> close,lun

OK, so you read a 2D array into "data".

> For i=0, 823 Do Begin

> FOR j=0, 913 Do Begin

> x=data(i,*)

> y=data(*,j)

> endfor

> endfor

Then you have a double for loop where you set x and y to the different rows and columns of data. But you never use those x and y for anything.

> window, 1, retain=2

> contour, rotatedata

Then you open a window and make a contour plot of some other variable, rotatedata, which we don't know where you get or what it looks like.

> While (!mouse.button Ne 4) DO BEGIN

> cursor, x, y, /data

> ENDWHILE

Then you enter a while loop, with a cursor command. The first time you click the mouse, the last row and column that you had in x and y will be replaced with the data coordinates at the location

where the mouse pointer was positioned when you clicked. (Assuming cursor does work with contour, this will be x and y coordinates in the plot.)

But as far as I understand you can keep clicking away with the other two mouse buttons with no apparent effect, as this loop will not terminate until you click the rightmost mouse button, at which point the last position coordinates will be available in the x and y variables.

> However, when I try this nothing happens.

What mouse buttons did you click, if any?

> On the website you gave me I am not sure what this does in the example code they provide? could this be one section I am doing wrong?

```
>  
> PLOTS,[X,X1], [Y,Y1], /NORMAL  
> X = X1 & Y = Y1
```

In the example, before the while loop, the coordinates of a starting point (the first point where you click) is read with cursor. Then the while loop lets you keep clicking and it will draw lines from one point to the next for as long as you wish. When you want to stop drawing lines, you click the rightmost button and the loop will terminate after drawing the final line segment.

Why don't you run it?

Subject: Re: cursor command

Posted by [Russell Ryan](#) on Wed, 03 Apr 2013 01:07:44 GMT

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Ok that helps trying to zero in on the problem. But there's still some confusing things.

What do you mean by "image profile"?

What do you mean by "starting x/y and ending x/y positions"? Starting/ending of what?

How do you expect or want the cursor procedure to help with these things?

To me, it sounds like you might want to plot a contour plot. Then use the cursor to trace out the contour lines and save those x,y values for later use. If so, then I think you're wasting your time with cursor (though this can be done).

Let me know, I have a feeling we're close to answering your problem.

Russell

On Tuesday, April 2, 2013 7:41:48 PM UTC-4, gpet...@ucsc.edu wrote:

> On Tuesday, April 2, 2013 12:04:50 PM UTC-7, rr...@stsci.edu wrote:

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>
> I think my question lies on how to properly separate the x and the y values from the 2d data
> array. I have done this
>
>
>
> openr, lun, 'arial.txt',/get_lun
>
>
>
> data=dindgen(824,914)
>
> readf, lun, data
>
> close,lun
>
>
>
>
>
>
>
>
>
> For i=0, 823 Do Begin
>
> FOR j=0, 913 Do Begin
>
> x=data(i,*)
>
> y=data(*,j)
>
> endfor
>
> endfor
>
>
>
>
>
```

```
>
>
> window, 1, retain=2
>
>
>
> contour, rotatedata
>
>
>
>
> While (!mouse.button Ne 4) DO BEGIN
>
> cursor, x, y, /data
>
>
>
> ENDWHILE
>
>
>
>
>
>
> However, when I try this nothing happens.
>
>
>
>
>
> On the website you gave me I am not sure what this does in the example code they provide?
could this be one section I am doing wrong?
>
>
>
> PLOTS,[X,X1], [Y,Y1], /NORMAL
>
>
>
> X = X1 & Y = Y1
>
>
>
>
>
> Thanks, Georgia
```

Subject: Re: cursor command
Posted by [gpeterso](#) on Wed, 03 Apr 2013 02:11:01 GMT
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http://www.idlcoyote.com/ip_tips/image_profile.html

This link i posted describes what I was previously talking about with the image profiling. I just need to be able to accurately find the two endpoints for any line I choose on the contour map.

Subject: Re: cursor command
Posted by [Craig Markwardt](#) on Wed, 03 Apr 2013 02:18:29 GMT
[View Forum Message](#) <> [Reply to Message](#)

On Tuesday, April 2, 2013 10:11:01 PM UTC-4, gpet...@ucsc.edu wrote:

> http://www.idlcoyote.com/ip_tips/image_profile.html

>

>

>

> This link i posted describes what I was previously talking about with the image profiling. I just need to be able to accurately find the two endpoints for any line I choose on the contour map.

It kind of depends on what OS and what version of IDL you are using. On the Mac, CURSOR has a "cursed" history of stopping working and then being fixed, and then stopping working again. This has happened several times through the IDL 7 and IDL 8 release cycles. The symptoms are what you describe: CURSOR just pauses and doesn't do anything, doesn't respond to clicks. Also, on X11 I have to disable the "Click through to inactive windows" setting.

Craig

Subject: Re: cursor command
Posted by [gpeterso](#) on Wed, 03 Apr 2013 03:08:37 GMT
[View Forum Message](#) <> [Reply to Message](#)

On Tuesday, April 2, 2013 7:18:29 PM UTC-7, Craig Markwardt wrote:

> On Tuesday, April 2, 2013 10:11:01 PM UTC-4, gpet...@ucsc.edu wrote:

>

>> http://www.idlcoyote.com/ip_tips/image_profile.html

>

>>

>

>>

>

>>

>

>> This link i posted describes what I was previously talking about with the image profiling. I just need to be able to accurately find the two endpoints for any line I choose on the contour map.

>
>
>
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>
>
>
> Craig

Has there been problems with linux machines?

Subject: Re: cursor command
Posted by [Russell Ryan](#) on Wed, 03 Apr 2013 13:48:07 GMT
[View Forum Message](#) <> [Reply to Message](#)

On Tuesday, April 2, 2013 10:11:01 PM UTC-4, gpet...@ucsc.edu wrote:

> http://www.idlcoyote.com/ip_tips/image_profile.html
>
>
>
>

> This link i posted describes what I was previously talking about with the image profiling. I just need to be able to accurately find the two endpoints for any line I choose on the contour map.

Ok. So now I think I know what's wrong. You want to draw a contour plot, then select a line, then have it plot the profile along that line. Got it. Well, I suppose a line is given by either two points: (x1,y1) and (x2,y2) or by a slope-intercept pair (m,b). Of course it's easy to convert between the two, but since you'e asked about cursor, I suppose we should use the two xy pairs.

Here's the pseudocode.

1. plot the contour.
2. click once to get one point.
3. click a second time to get the other point.
4. draw the profile
5. Goto 2 or quit.

Here's some IDL code

```
;step 0 read the image  
img=dist(200)  
sz=size(img,/dim)           ;the size of the image
```

```
;step 1. draw the contour  
window,1,retain=2,xsize=400,ysize=400  
contour,img
```

```

npoints=100           ;number of the line plot

;start a while loop so we can "goto" step 2

;save the current state of the mouse button. this is generally
;a good habit anytime you modify or test the system variables
mousebutton=!mouse.button & !mouse.button=0
print,'right click to quit'
while !mouse.button ne 4 do begin
    ;double chcek that the window is set to the main one.
    wset,1

    print,'please click on one point.'
    cursor,x1,y1,3,/data
    if x1 lt 0 || y1 lt 0 || x1 gt sz(0) || y1 gt sz(1) then begin
        print,'first point is off the image.'
        goto,skip
    endif

    print,'please click on a second point.'
    cursor,x2,y2,3,/data
    if x2 lt 0 || y2 lt 0 || x2 gt sz(0) || y2 gt sz(1) then begin
        print,'second point is off the image.'
        goto,skip
    endif

    ;okay at this point, we have the two x,y pairs
    ;over plot the line
    oplot,[x1,x2],[y1,y2],line=1

    ;now extract the contour (via Fanning's webpage)
    xloc=x1+(x2-x1)*findgen(npoints)/(npoints-1)
    yloc=y1+(y2-y1)*findgen(npoints)/(npoints-1)
    line=interpolate(img,xloc,yloc)

    ;now create a second window for the plot
    window,3,retain=2,xsize=400,ysize=400
    plot,line

    ;set the window back to the first (in case you want to do it again)
    wset,1

    skip:
endwhile

```

```
;if here, menas you quit. so lets uset the mousestate
!mouse.button=mousebutton
```

Subject: Re: cursor command

Posted by [Russell Ryan](#) on Wed, 03 Apr 2013 13:52:38 GMT

[View Forum Message](#) <> [Reply to Message](#)

On Tuesday, April 2, 2013 1:04:49 PM UTC-4, gpet...@ucsc.edu wrote:

> Can you use the cursor command on a 2d contour map?

Ok. So now I think I know what's wrong. You want to draw a contour plot, then select a line, then have it plot the profile along that line. Got it. Well, I suppose a line is given by either two points: (x1,y1) and (x2,y2) or by a slope-intercept pair (m,b). Of course it's easy to convert between the two, but since you'e asked about cursor, I suppose we should use the two xy pairs.

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Here's some IDL code

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img=dist(200)
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```
sz=size(img,/dim)           ;the size of the image
```

```
;step 1. draw the contour
```

```
window,1,retain=2,xsize=400,ysize=400
```

```
contour,img
```

```
npoints=100                 ;number of the line plot
```

```
;start a while loop so we can "goto" step 2
```

```
;save the current state of the mouse button. this is generally
```

```
;a good habit anytime you modify or test the system variables
```

```
mousebutton=!mouse.button & !mouse.button=0
```

```
print,'right click to quit'
```

```
while !mouse.button ne 4 do begin
```

```
    ;double chcek that the window is set to the main one.
```

```
    wset,1
```

```
    print,'please click on one point.'
```



```
cursor,x1,y1,3,/data
if x1 lt 0 || y1 lt 0 || x1 gt sz(0) || y1 gt sz(1) then begin
  print,'first point is off the image.'
  goto,skip
endif
```

```
print,'please click on a second point.'
cursor,x2,y2,3,/data
if x2 lt 0 || y2 lt 0 || x2 gt sz(0) || y2 gt sz(1) then begin
  print,'second point is off the image.'
  goto,skip
endif
```

```
;okay at this point, we have the two x,y pairs
;over plot the line
oplot,[x1,x2],[y1,y2],line=1
```

```
;now extract the contour (via Fanning's webpage)
xloc=x1+(x2-x1)*findgen(npoints)/(npoints-1)
yloc=y1+(y2-y1)*findgen(npoints)/(npoints-1)
line=interpolate(img,xloc,yloc)
```

```
;now create a second window for the plot
window,3,retain=2,xsize=400,ysize=400
plot,line
```

```
;set the window back to the first (in case you want to do it again)
wset,1
```

```
skip:
endwhile
```

```
;if here, menas you quit. so lets uset the mousestate
!mouse.button=mousebutton
```

Subject: Re: cursor command
Posted by [Craig Markwardt](#) on Wed, 03 Apr 2013 13:58:57 GMT
[View Forum Message](#) <> [Reply to Message](#)

On Tuesday, April 2, 2013 11:08:37 PM UTC-4, gpet...@ucsc.edu wrote:
> Has there been problems with linux machines?

Linux server machines displaying X windows on a Mac, then yes. I don't know about a Linux desktop, it's been a while since I've had one.

Subject: Re: cursor command

Posted by [gpeterso](#) on Fri, 05 Apr 2013 21:08:00 GMT

[View Forum Message](#) <> [Reply to Message](#)

On Wednesday, April 3, 2013 6:48:07 AM UTC-7, rr...@stsci.edu wrote:

> On Tuesday, April 2, 2013 10:11:01 PM UTC-4, gpet...@ucsc.edu wrote:

>

>> http://www.idlcoyote.com/ip_tips/image_profile.html

>

>>

>

>>

>

>>

>

>> This link i posted describes what I was previously talking about with the image profiling. I just need to be able to accurately find the two endpoints for any line I choose on the contour map.

>

>

>

> Ok. So now I think I know what's wrong. You want to draw a contour plot, then select a line, then have it plot the profile along that line. Got it. Well, I suppose a line is given by either two points: (x1,y1) and (x2,y2) or by a slope-intercept pair (m,b). Of course it's easy to convert between the two, but since you'e asked about cursor, I suppose we should use the two xy pairs.

>

>

>

> Here's the pseudocode.

>

> 1. plot the contour.

>

> 2. click once to get one point.

>

> 3. click a second time to get the other point.

>

> 4. draw the profile

>

> 5. Goto 2 or quit.

>

>

>

> Here's some IDL code

>

> ;step 0 read the image

>

```

> img=dist(200)
>
> sz=size(img,/dim)           ;the size of the image
>
>
>
> ;step 1. draw the contour
>
> window,1,retain=2,xsize=400,ysize=400
>
> contour,img
>
>
>
> npoints=100                 ;number of the line plot
>
>
>
> ;start a while loop so we can "goto" step 2
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>
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>
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>
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>
> print,'right click to quit'
>
> while !mouse.button ne 4 do begin
>
>   ;double chcek that the window is set to the main one.
>
>   wset,1
>
>
>
>   print,'please click on one point.'
>
>   cursor,x1,y1,3,/data
>
>   if x1 lt 0 || y1 lt 0 || x1 gt sz(0) || y1 gt sz(1) then begin
>
>     print,'first point is off the image.'
>
>

```

```

>     goto,skip
>
> endif
>
>
>
> print,'please click on a second point.'
>
> cursor,x2,y2,3,/data
>
> if x2 lt 0 || y2 lt 0 || x2 gt sz(0) || y2 gt sz(1) then begin
>     print,'second point is off the image.'
>
>     goto,skip
>
> endif
>
>
>
>
>
>
> ;okay at this point, we have the two x,y pairs
>
> ;over plot the line
>
> oplot,[x1,x2],[y1,y2],line=1
>
>
>
> ;now extract the contour (via Fanning's webpage)
>
> xloc=x1+(x2-x1)*findgen(npoints)/(npoints-1)
>
> yloc=y1+(y2-y1)*findgen(npoints)/(npoints-1)
>
> line=interpolate(img,xloc,yloc)
>
>
>
> ;now create a second window for the plot
>
> window,3,retain=2,xsize=400,ysize=400
>
> plot,line
>

```

```
>  
>  
> ;set the window back to the first (in case you want to do it again)  
>  
> wset,1  
>  
>  
>  
>  
> skip:  
>  
> endwhile  
>  
>  
>  
> ;if here, menas you quit. so lets uset the mousestate  
>  
> !mouse.button=mousebutton
```

Thank you russell! works great!
