
Subject: Re: cursor command

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

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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.

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
```
