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
```