Subject: Re: Crosshair data point extraction - Query
Posted by oet on Thu, 02 Dec 1993 15:58:09 GMT
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In article AA19871@tigermoth.aero.gla.ac.uk.gla.ac.uk, gnaa38@aero.gla.ac.uk (Paul Porcelli) writes:
> Is there any facility in IDL or Wave to produce a plot and then identifty the
> coordinates of a point by clicking the mouse or moving a crosshair over the
> point.

The procedure below plots a moving crosshair, example:

IDL> window
IDL> bighair, COLOR=!d.n_colors-1

-Thomas

******************************** CUT HERE *********************************

```
PRO BIGHAIR, x, y, KEYBOARD=KEYBOARD, ACCELERATE=ACCELERATE, $
              PERMANENT=PERMANENT, COLOR=COLOR
;
;+
; NAME:
; BIGHAIR
;
; PURPOSE:
;
;       Gets cursor location in current window,
;       using cursor lines across the entire window.
;       /Keyboard accepts arrow keys input from keyboard, rather than mouse
;       Accelerate = number of pixels to jump in "/keyboard" mode.
;       The X and Y cursor locations (in pixels) are returned.
;       Further modification could allow Normalized or
;       Data coordinates to be returned.
;
;
;
; CATEGORY:
;       Interactive Drawing
;
;
; CALLING SEQUENCE:
;
;       IDL> BIGHAIR, x, y [,/Keyboard [,Accelerate=# pixels]]
;
; KEYWORDS:
```

```
;       KEYBOARD Use keyboard instead of mouse
;       ACCELERATE increase steps on usage with keyboard
;       PERMANENT show current position permanently
;       COLOR  color to draw bighair
;
; SEE ALSO:
;
;
; MODIFICATION HISTORY:
;  Written by:  Mike Mayer, 8/29/92
;                Jim Pendleton, Dept. Physics & Astronomy
;                Northwestern U.
;                     Added to idlmeteo 11-june-1993 oet@sma.ch
;                     28-june-1993, oet@sma.ch, inserted short
;                     wait (0.2) after first plot, to get
;                     more stability on first plot.
;      9-Aug-1993, oet@sma.ch, added keywords
;    PERMANENT and COLOR
;-

if keyword_set(COLOR) then col=color else col=!d.n_colors-1

DEVICE, Get_Graphics = oldmode
DEVICE, Set_Graphics = 6 ; XOR write mode.
xmax = !D.X_Vsize
ymax = !D.Y_Vsize
!Err = 0 ; Reset.
oldx = 0
oldy = 0
If (not Keyword_Set(Accelerate)) then Begin
 Accelerate = 1.
EndIf
If (not Keyword_Set(KeyBoard)) then Begin
 PRINT, 'Press left mouse button to quit...'
 CURSOR, oldx, oldy, /Device, /Change
EndIf Else Begin
 PRINT, 'Press space bar to quit...'
 oldx = xmax/2
 oldy = ymax/2
 x = oldx
 y = oldy
EndElse
PLOTS, [oldx, oldx], [0, ymax], /Device, COLOR=col  ; Draw first crosshairs.
PLOTS, [0, xmax], [oldy, oldy], /Device, COLOR=col  ; Draw first crosshairs.
wait, 0.3
EMPTY
Up = String(27B) + '[A'
Down = String(27B) + '[B'
```

```
Right = String(27B) + '[C'
Left = String(27B) + '[D'
Clear = Get_Kbrd(0)
Null = ''
WHILE !Err NE 1 DO BEGIN
   If (Keyword_Set(Keyboard)) then Begin
    A = String(Byte(Get_Kbrd(0)))
    While ((A ne String(27B)) and (StrUpCase(A) ne ' ')) Do Begin
     A = String(Byte(Get_Kbrd(0)))
    EndWhile
    B = String(Byte(Get_Kbrd(0)))
    C = String(Byte(Get_Kbrd(0)))
    Key = A + B + C
   EndIf Else Begin
    CURSOR, x, y, /Device, /Change
   EndElse
   PLOTS, [oldx, oldx], [0, ymax], /Device, COLOR=col ; Erase last crosshairs.
   PLOTS, [0, xmax], [oldy, oldy], /Device, COLOR=col ; Erase last crosshairs.
   If (Keyword_Set(Keyboard)) then Begin
    !Err = 0
    Case Key Of
  Up : y = oldy + Accelerate
  Down : y = oldy - Accelerate
  Left : x = oldx - Accelerate
  Right : x = oldx + Accelerate
  Null : x = x
  Else : !Err = 1
    EndCase
   EndIf
   If ((x ne oldx) or (y ne oldy)) then Begin
     if keyword_set(PERMANENT) then begin
        coords=convert_coord(x,y,/DEVICE, /TO_DATA)
        tmp_string= 'x: '+strtrim(coords(0),2) +  $
                  ' y: ' + strtrim(coords(1),2)
        print, tmp_string
     endif


    PLOTS, [x, x], [0, ymax], /Device, COLOR=col ; Draw new crosshairs.
    PLOTS, [0, xmax], [y, y], /Device, COLOR=col ; Draw new crosshairs.
    oldx = x
    oldy = y
    EMPTY
   EndIf
ENDWHILE
If (not Keyword_Set(Keyboard)) then Begin
;
; Already erased in Keyboard mode.
```

```
;
 PLOTS, [oldx, oldx], [0, ymax], /Device, COLOR=col  ; Erase last crosshairs.
 PLOTS, [0, xmax], [oldy, oldy], /Device, COLOR=col ; Erase last crosshairs.
EndIf
Empty
DEVICE, Set_Graphics = oldmode
PRINT, 'X = ' + STRTRIM(x, 2), '   Y = ' + STRTRIM(y, 2)
END
```