
Subject: Re: !p.multi and tv
Posted by [pit](#) on Mon, 18 May 1998 07:00:00 GMT
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In article <6ji0he\$3v\$1@nnrp1.dejanews.com>,
csaute3@alumni.umbc.edu writes:
> davidf@dfanning.com (David Fanning) wrote:
>
>> You might want to try TVImage on my webpage.
>
>
> I would like to use !P.MULTI and TV to position images like you
> would plots. For plots I can do the following to get a column of
> 4 plots. I have not specified any positioning coordinates. !p.multi
> "handles" that for me.

I have one that respects the setting of !p.multi - maybe try it out.

Peter

PRO Tvmg, image, xax, yax, position=pos, box=box, noerase=noerase, \$
nolabels=nolabels, noscale=noscale, ASPECT=aspect, _EXTRA=extra

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;+
; NAME:
;   TVIMG
; PURPOSE:
;   Display an image in an window with border and axis
; CALLING SEQUENCE:
;   TVIMG, IMAGE [, XAX [, YAX] [, KEYWORDS]]
; INPUTS:
;   IMAGE : Image to display
; OPTIONAL INPUT PARAMETER:
;   XAX   : (input) Xaxis values
;   YAX   : (input) Yaxis values
; KEYWORDS:
;   POSITION: Position of Plot area corners in norm coordinates.
;           Standard graphics keywords
;   BOX    : (input) Draw the koordinate axes with linethick
;           BOX. Makes the plot look a bit Displa-Style.
;   ASPECT : (Flag) Keep aspect ratio of the image
;   NOERASE : (Flag) Don't clear plot window before drawing
;   NOLABELS: (Flag) Don't draw axis annotations
;   NOSCALE : (Flag) By default, TVSCL is used to display the
;               image. Set this keyword to use TV instead. Remember
;               to do bytescaling yourself!
;   Additionally, all valid keywords for the plot routine are
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;    allowed.
; RESTRICTIONS:
;
; PROCEDURE:
;    Eventually rescale the image to fit the display, then oplot an
;    empty co-ordinate system. Draw thick bounding box if required.
; MODIFICATION HISTORY:
;    24-Sep-1994 P.Suetterlin, KIS
;    23-Feb-1995 Correct handling of multiple-plot styles (!P.style<>0)
;    25-Jul-1996 Use Keyword _EXTRA to pass keywords to plot
;                routine.
;    29-Oct-1997 Add keyword ASPECT to preserve the aspect ratio of
;                the image
;-

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on_error, 2
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IF n_params() LT 1 THEN $
    message, 'Syntax: TVIMG, Image [, xax, yax]'

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s = size(image)
sx = s(1) & sy = s(2)

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IF n_params() LT 3 THEN $
    yax = indgen(sy)

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IF n_params() LT 2 THEN $
    xax = indgen(sx)

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...
;;;
;;; We do an empty plot to
;;; 1) clear the screen (except NOERASE is set)
;;; 2) Set !x.window and !y.window if it is a multiple plot
...
;;;

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plot, [0, 1], /nodata, xsty = 4, ysty = 4, xtit = "", ytit = "", $
    subtit = "", tit = "", noerase=noerase

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IF NOT keyword_set(pos) THEN BEGIN
    IF (!X.window(1)-!X.window(0)) EQ 0 THEN $
        pos = [0.1, 0.1, 0.95, 0.95] $
    ELSE $
        pos = [!X.window(0), !Y.window(0), !X.window(1), !Y.window(1)]
ENDIF

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IF keyword_set(aspect) THEN BEGIN
    ;;; current aspect ratio
    asp = float(sx)/sy

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    ;; aspect ratio of the plot area
    asp1 = (pos(2)-pos(0))*!d.x_size/((pos(3)-pos(1))*!d.y_size)
    IF asp LT asp1 THEN BEGIN
        ;; area is broader than pic -> shrink area horizontally
        nw = asp/asp1*(pos(2)-pos(0))
        pos(0) = pos(0)+((pos(2)-pos(0))-nw)/2
        pos(2) = pos(0)+nw
    ENDIF ELSE BEGIN
        ;; area is higher than pic -> shrink area vertically
        nw = asp1/asp*(pos(3)-pos(1))
        pos(1) = pos(1)+((pos(3)-pos(1))-nw)/2
        pos(3) = pos(1)+nw
    ENDELSE
ENDIF

IF !D.name NE 'PS' THEN GOTO, x

IF keyword_set(noscale) THEN BEGIN
    tv, image, pos(0), pos(1), xsize=pos(2)-pos(0), $
    ysize=pos(3)-pos(1), /norm
ENDIF ELSE BEGIN
    tvscl, image, pos(0), pos(1), xsize=pos(2)-pos(0), $
    ysize=pos(3)-pos(1), /norm
ENDELSE

plot, xax([0, sx-1]), yax([0, sy-1]), /nodata, /noerase, pos=pos, $
    /xsty, /ysty, xtickname=replicate(' ', 15), ytickname=replicate(' ', 15), $
    _EXTRA=extra

IF NOT keyword_set(nolabels) THEN BEGIN
    axis, xax=0, /xsty
    axis, yax=0, /ysty
ENDIF

IF keyword_set(box) THEN BEGIN
    lu = [!X.crange(0), !Y.crange(0)]
    ro = [!X.crange(1), !Y.crange(1)]
    plots, [lu(0), ro(0), ro(0), lu(0), lu(0)], $
    [lu(1), lu(1), ro(1), ro(1), lu(1)], thick = box
ENDIF

return

X:
nx = fix(((pos(2)-pos(0))*!D.x_size+0.5)+1)
ny = fix(((pos(3)-pos(1))*!D.y_size+0.5)+1)

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IF keyword_set(noscale) THEN $
  tv, rescale(image, nx, ny), pos(0), pos(1), /norm $
ELSE $
  tvscl, rescale(image, nx, ny), pos(0), pos(1), /norm

plot, xax([0, sx-1]), yax([0, sy-1]), /nodata, /noerase, pos=pos, $
  /xsty, /ysty, xtickname=replicate(' ', 15), ytickname=replicate(' ', 15), $
  _EXTRA=extra

IF NOT keyword_set(nolabels) THEN BEGIN
  axis, xax=0, /xsty
  axis, yax=0, /ysty
ENDIF

IF keyword_set(box) THEN BEGIN
  lu = [!X.crangle(0), !Y.crangle(0)]
  ro = [!X.crangle(1), !Y.crangle(1)]
  plots, [lu(0), ro(0), ro(0), lu(0), lu(0)], $
    [lu(1), lu(1), ro(1), ro(1), lu(1)], thick = box
ENDIF

END

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Come and see the stars! <http://www.kis.uni-freiburg.de/~ps/SFB>

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