
Subject: Re: !p.multi and tv

Posted by [pit](#) on Fri, 29 May 1998 07:00:00 GMT

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In article <6kkn02\$h39\$1@nnrp1.dejanews.com>,

csaute3@alumni.umbc.edu writes:

> In article <6jp3cl\$jus\$3@gwdu19.gwdg.de>,

> pit@uni-sw.gwdg.de wrote:

>> PRO Tvimg, image, xax, yax, position=pos, box=box, noerase=noerase, \$

>> nolabels=nolabels, noscale=noscale, ASPECT=aspect, _EXTRA=extra

> [...]

>

> Tvimg.pro uses a function called "rescale". This is not an IDL function.

> Is this a routine that you wrote?

Yes - I overlooked it while scanning for unresolved routines - sorry:

Peter

FUNCTION Rescale, image, xsizE, ysize, scale=scale
;
; NAME:
; RESCALE
; PURPOSE:
; Expand or shrink a given (1- or 2-dimensional) Array to new size
; CATEGORY:
;
; CALLING SEQUENCE:
; RESULT = RESCALE(IMAGE, [[XSIZE [, YSIZE]] || SCALE=Scale])
; INPUTS:
; IMAGE : Original Image
; XSIZE : New dimension for the X-axis
; YSIZE : 1-d case: If ysize is given, a pseudo-2d Array of
; identical rows is returned, else a 1-dim Array of size
; xsize .
; 2-d case: If ysize is given it is taken as the new
; dimension for the Y-axis. If omitted, the Y-axis is
; scaled with the same factor as the X-axis to keep the
; aspect ratio
; KEYWORDS:
; SCALE : (input) 1- or 2-element vector with the scales for x
; and y axis. Overrides YSIZE and YSIZE.
; OUTPUTS:
; RESULT: Rescaled array of same type as IMAGE, size is
; (XSIZE,YSIZE) (1/2-d case, YSIZE given)
; (XSIZE,YOrig*XOrig/XSIZE) (2-d case, YSIZE omitted)

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;           (XSIZE)          (1-d case, YSIZE omitted)
; PROCEDURE:
;   Scale-Factors are computed from the Size of the original data
;   and the parameters XSIZEx and YSIZE. For 1-dim case SPLINE is
;   used for interpolation, in 2-d case POLY_2D is used.
; MODIFICATION HISTORY:
;   19-Feb-1993 P.Suettelin, KIS
;-

on_error, 2           ; Return on error

IF n_params() LT 2 AND NOT keyword_set(scale) THEN BEGIN
  message, 'Usage: result = rescale( Image, XSize [, YSize] )'
ENDIF

s=size(image)
IF s(s(0)+1) EQ 8 THEN BEGIN ; Image is ST4-Structure?
  pic = image.pic           ; Only for my personal
                             ; use
  s = size(pic)
ENDIF ELSE pic = image

IF keyword_set(scale) THEN BEGIN
  IF n_elements(scale) EQ 1 THEN scale = [scale, scale]
    ;;; scale overrides xsize/ysize
  xsize = s(1)*scale(0)
  IF s(0) NE 1 THEN ysize = s(2)*scale(1)
ENDIF

IF s(0) EQ 1 THEN BEGIN           ; Image is 1-d Array
  line = spline(indgen(s(1)), pic, $
                findgen(xsize)/xsize*s(1))
  IF n_params() EQ 3 THEN BEGIN    ; Expand to 2-dim
    scalepic = fltarr(xsize, ysize)
    FOR i = 0, ysize-1 DO scalepic(*, i) = line
    return, scalepic             ; Return 2-dim
  ENDIF ELSE return, line        ; Return 1-dim
ENDIF ELSE BEGIN
  IF n_params() LT 3 AND NOT keyword_set(scale) THEN $ ; Rescale Y by same
    ysize = fix(s(2)*(float(xsize)/s(0))+.5)          ; amount
  P = [[0, 0], [float(s(1))/xsize, 0]]    ; Matrices for
  Q = [[0, float(s(2))/ysize], [0, 0]]      ; Poly_2d
  return, poly_2d(pic, P, Q, 1, xsize, ysize)
ENDIFELSE
END
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--
```

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

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