Subject: mpfit questions /strange behavior
Posted by sirvival on Fri, 01 Oct 2010 10:32:47 GMT
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Hi,
I just started getting used to mpfit.

My question is:
I call mpfit2Dfun as mentioned in the description
I have a function (extra pro).
If I use return, functionname inside the function I get a different result than when I leave the return blank.
What am I doing wrong?
Also when the return is blank it runs much faster.
For demonstration here I reduced the size of my arrays.

My pro is:

```
 if keyword_set(fspec1) eq 0 then begin
    rstar = 10
    nx = 1000
    ny = 400
    rotvel = 0.25
    x = findgen(nx)
    y = findgen(ny)
    xpos = nx/2.
    xprof = sqrt(1- (((x-xpos)/rstar)^2 <1))
    ypos = ny/2
    yprof = 1.-0.5*exp(-0.5*((y-ypos)/16)^2)
    spec0 = xprof#yprof
    sspec0 = spec0
    rstar = 100
  For j = fix(xpos)-fix(rstar),fix(xpos)+fix(rstar-1) do begin ;
(linien breite?)
    sh = (j-fix(xpos))*rotvel       ; 1 km/sec rot vel
    sspec0(j,*) = shift(spec0(j,*),sh)
  Endfor
    fspec0 = sspec0
    xprof = indgen(1000)
    yprof = indgen(400)
    psfx0 = exp(-.5/20^2*((findgen(21)-10))^2)
    psfy0 = exp(-.5/10^2*(findgen(11)-5)^2)
    psf0 = psfx0#psfy0
    psf0 = psf0/total(psf0)
    fspec0 = convol(sspec0,psf0,/edge_truncate)
    fspec1 = fspec0 > 0.00005D
    sqrt0 = sqrt(fspec0*100000000D)/100000000D
```

```
    sqrt0 = sqrt0 > 0.0000005D

endif else begin
    if keyword_set(fspec1) ne 0 then fspec1=fspec1
endelse
    window,0
    window,1
    wset,0
    shade_surf,fspec1,charsize=2.5
    wset,1
    print,'starting mpfit'

  parinfo=replicate({value:0D,step:0D,relstep:0D},5)
  parinfo[*].value = [10D,20D,10D,100D,0.25D]
  parinfo[*].step = [0,0,0,0,0]
  parinfo[*].relstep = [0.05D,0.05D,0.05D,0.05D,0.005D]
  test =
 mpfit2Dfun('specfunc',xprof,yprof,fspec1,sqrt0,parinfo=parin fo)

end
```

The Function:

```
  Function specfunc,x,y,p

    x = dindgen(1000)
    y = dindgen(400)
    xprof = sqrt(1- (((x-500)/p[0])^2 <1))
    yprof = 1.-0.5*exp(-0.5*((y-200)/16)^2)
    spec = xprof#yprof
    rotvel = p[4]
    xpos = 500
  For j = fix(xpos)-fix(p[3]),fix(xpos)+fix(p[3]-1) do begin ; (linien
breite?)
    sh = (j-fix(xpos))*rotvel       ; 1 km/sec rot vel
    spec(j,*) = shift(spec(j,*),sh)
  Endfor
    specfunc = spec
    xdim = dindgen(21)
    ydim = dindgen(11)
    psfx = exp(-.5/p[1]^2*(xdim-10)^2)
    psfy = exp(-.5/p[2]^2*(ydim-5)^2)
    psf = psfx#psfy
    psf = psf/total(psf)
    print,'starting convolution (MPFIT)'
    specfunc = convol(spec,psf,/edge_truncate)
```

```
    specfunc = specfunc > 0.00005D
    shade_surf,specfunc,charsize=2.5
    return,specfunc

end
```

Thanks.
