
Subject: MPFITFUN multiple variable

Posted by [bjy512](#) on Thu, 24 Aug 2017 02:10:33 GMT

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I am working with the modis data with pm10 concentration and other lots of meteorological variables and to get a regression equations, i am using mpfitfun function as i could make my own equations.

However, there are big problems in the results. (1) too big CHI-SQUARE (2) too small correlation coefficient and (3) I DON'T KNOW WHAT TO DOOOOOOOO!!!!

so if you know how to fix this, please help me... i am literally fixing this over weeks.....

belows are my code

<result>

```
Iter 12 CHI-SQUARE = 55324548. DOF = 28008
P(0) = 38.9913
P(1) = 0.379677
P(2) = -0.738418
P(3) = -0.325880
P(4) = -0.00822390
P(5) = 274.202
38.991277 0.37967665 -0.73841789 -0.32587978 -0.0082238981
274.20198
% Compiled module: CORRELATE.
0.38668333
```

```
104 jacobian=dblarr(5,number)
105 jacobian=[transpose(aot),transpose(ww),transpose(temp1),tran
spose(rr),transpose(hpbla)]
106
107
108
109
110
111 p=[38.44,0.25,-0.7,-0.33,0.,300]
112 weights=replicate(0.5,5,number)
113 err=replicate(0,number)
114
115 weights(0,*)=0.01
116 weights(1,*)=0.5
117 weights(2,*)=0.01
118 weights(3,*)=0.01
119 weights(4,*)=0.01
120
121 s={x1:0.0d,x2:0.0d,x3:0.0d,x4:0.0d,x5:0.0d}
122 s=replicate(s,number)
```

```
123     s.x1=aot
124     s.x2=ww
125     s.x3=temp1
126     s.x4=rr
127     s.x5=hpbla
128
129     myfunc='p[5] + p[0]*x[0,*] + p[1]*x[1,*]+p[2]*x[2,*]+p[3]*x[3,*]+p[4]*x[4,*]'
130     result=mpfitexpr(myfunc,jacobian,pm,p,err=err,weight=weights )
131     print,result
132
133     est_pm=dblarr(number)
134
135     for i=0, number-1 do begin
136         est_pm(i)=result(5)+result(0)*jacobian[0,i]+result(1)*jacobi
an[1,i]+result(2)*jacobian[2,i]+    result(3)*jacobian[3,i]+result(4)*jacobian[4,i]
137     endfor
```
