Subject: Help!!!!
Posted by alepliee on Sat, 18 Apr 2015 14:15:15 GMT
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Make a chart of ' distance x speed
2- Make a linear fit and compare with robust tuning (comment)
3- Determine the correlation coefficients (Pearson, Spearman and Kendall) and comment
4- Use the bootstrap technique to determine H0 (km / s / Mpc) . Making the histogram of values obtained. Set a Gaussian and give the value of H0 with uncertainty.
5- Take an error of 5 % in the variables . Use boot_xyfit.pro program. Make a histogram for the given values . Compare the average value with the value obtained by robust adjustment .
6 Assuming the uncertainty in the Y variable, do residue analysis. Display the graph. Is there any solution available ?

Subject: Re: Help!!!!
Posted by rryan%stsci.edu on Sat, 18 Apr 2015 16:21:50 GMT
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On Saturday, April 18, 2015 at 10:15:18 AM UTC-4, alep...@gmail.com wrote:
> Make a chart of ' distance x speed
> 2- Make a linear fit and compare with robust tuning (comment)
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> for the given values . Compare the average value with the value obtained by robust adjustment .
> 6 Assuming the uncertainty in the Y variable, do residue analysis. Display the graph. Is there any solution available ?

This sounds an awful lot like a homework problem. I don't think you're going to get much help, or at least you're not going to get someone to do your homework for you. And anyone who does is doing you a disservice and, in my opinion, is a wildly unethical thing to do. Maybe you should help us help you. What have you got so far? what exactly is tripping you up?

Subject: Re: Help!!!!
Posted by alepliee on Sat, 18 Apr 2015 17:25:28 GMT
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How to linear and robust adjustment ?
LINFIT : y = A + Bx
LINFIT result = (X, Y = MEASURE_ERRORS measure_errors)
PRINT , result

What data put in X , Y ?

Subject: Re: Help!!!!
Posted by rryan%stsci.edu on Sat, 18 Apr 2015 19:26:16 GMT
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On Saturday, April 18, 2015 at 1:25:30 PM UTC-4, alep...@gmail.com wrote:
> How to linear and robust adjustment ?
> LINFIT : y = A + Bx
> LINFIT result = (X, Y = MEASURE_ERRORS measure_errors)
> PRINT , result
>
> What data put in X , Y ?

It sounds like your professor is trying to get you to infer the Hubble constant from a bunch of data. He or she must have given you some data. Those data are x and y. At a fundamental level, it matters which is which, and you should try to understand that. Typically you have a "dependent" and "independent" variable. You need to realize which is which, of course I know, but I can't just tell you. Start by thinking what physically does Hubble constant represent? What are its units? km/s per Mpc. Now, what are the units of a slope of a line? Which variable should be x and should be y, now?

Once you get that sorted out, the IDL code is simple...

http://www.exelisvis.com/docs/LINFIT.html

result = linfit (x, y, measure_errors=dy)

where dy are the errors on y.

Subject: Re: Help!!!!
Posted by alepliee on Sun, 19 Apr 2015 03:29:28 GMT
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Em sábado, 18 de abril de 2015 11:15:18 UTC-3, alep...@gmail.com escreveu:
> Make a chart of ' distance x speed
> 2- Make a linear fit and compare with robust tuning (comment)
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> for the given values . Compare the average value with the value obtained by robust adjustment .
> 6 Assuming the uncertainty in the Y variable, do residue analysis. Display the graph. Is there

any solution available ?

```
home='C:\Users\Cliente02\.idl\itt\projetos\'
;hubble=rd_tfile('teste.rtf',/auto,/convert)
openr,1,home+'distancia1.txt'

dados=fltarr(2,24)
readf,1,dados
close,1

openr,1,home+'velocidade1.txt'

luz=fltarr(1,24)
readf,1,luz
close,1

openr,1,home+'erro1.txt'

erros=fltarr(1,24)
readf,1,erros
close,1

redshift=dados(0,*)
velocidade=luz(0,*)
erroy=erros(0,*)

 plot,redshift,velocidade,psym=2,xrange=[0.0,2.5],yrange=[-50 0.0,1500.0],$
xtit='Distancia(10E6)',ytit='Velocidade (km/s)',charsize=1.0,xminor=11,yminor=11
 oploterror,redshift,velocidade,erroy,psym=3,errcolor=fsc_col or('red')
plots,2.2,1350,psym=2,symsize=1.
redshift2=[0.0,2.5]
xyouts,2.22,1350,'Amostras',charsize=1.
 xyouts,2.22,1250,'Aj.Linear',charsize=1.,color=fsc_color('re d')
 xyouts,2.22,1150,'Aj.Robusto',charsize=1.,color=fsc_color('g reen')

result=LINFIT(distancia,velocidade)
print,result
yfit=result(0)+result(1)*redshift2
oplot,redshift2,yfit,linestyle=3,color=fsc_color('red')
robusto=robust_linefit(redshift,velocidade,/bisect,NumIT = 1000)
yrob=robusto(0)+robusto(1)*redshift2
oplot,redshift2,yrob,linestyle=2,color=fsc_color('green')

end
```

Can someone tell me Why NOT appears as lines ?