Subject: Re: Best fit line for sinusoid
Posted by chris_torrence@NOSPAM on Wed, 30 Sep 2015 15:19:43 GMT
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On Wednesday, September 30, 2015 at 8:51:33 AM UTC-6, liam....@gmx.co.uk wrote:
> On Wednesday, 30 September 2015 15:37:47 UTC+1, David Fanning wrote:
>> liam.steele@gmx.co.uk writes:
>>
>>> I was wondering if there was a 'simple' way to get IDL to plot a best fit line for a sinusoidally-varying data set. For example, say temperatures were recorded each hour for 5 days at a certain location, with each measurement having an error of 2 deg C. Then we would have something like:
>>>
>>> day = findgen(121)/24
>>> temp = 15 + 10*sin(10*!pi*findgen(121)/120) + 5*randomu(seed, 121)
>>> error = fltarr(121)+2
>>>
>>> Is it possible from these three arrays for IDL to work out and plot a best fit line? I have searched online, and can't really find what I'm looking for. (surprisingly I have never had to plot a best fit line to anything before!)
>>
>> You will do well to start here:
>>
>> http://cow.physics.wisc.edu/~craigm/idl/fitting.html
>>
>> Cheers,
>>
>> David
>> --
>> David Fanning, Ph.D.
>> Fanning Software Consulting, Inc.
>> Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
>> Sepore ma de ni thue. ("Perhaps thou speakest truth.")
>
> Aha! That looks far more useful than anything I found. Thanks very much.

Hi Liam,

Once you've done your fit, you can do an error bar plot like this:

```
day = dindgen(121)/24
temp = 15 + 10*sin(10*!pi*findgen(121)/120) + 5*randomu(seed, 121)
error = fltarr(121)+2
p = errorplot(day, temp, error, linestyle='none')
yfit = ...
p1 = plot(day, yfit, '2', /overplot)
```

Cheers,

Chris