
Subject: Re: Time series.

Posted by on Mon, 30 Apr 2012 07:31:59 GMT

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Den måndagen den 30:e april 2012 kl. 09:15:45 UTC+2 skrev dave poreh:

> Folks

> hi,

> I am doing some Time series analysis and i wish to plot the mean like (

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> Cheers,

> Dave

I think you want to bin your data and then plot the mean y value within each bin vs the mid x point.

Subject: Re: Time series.

Posted by [d.poreh](#) on Mon, 30 Apr 2012 09:26:44 GMT

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On Monday, April 30, 2012 9:31:59 AM UTC+2, Mats Löfdahl wrote:

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Thanks. Now i am thinking about: http://idlastro.gsfc.nasa.gov/idl_html_help/TS_SMOOTH.html

Cheers,

Dave :-)

Subject: Re: Time series.

Posted by [russell.grew](#) on Tue, 01 May 2012 01:54:13 GMT

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IIRC you can back it out of the histogram command using the reverse indices

http://www.idlcoyote.com/tips/histogram_tutorial.html

Subject: Re: Time series.

Posted by [chris_torrence@NOSPAM](#) on Tue, 01 May 2012 18:57:45 GMT

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On Monday, April 30, 2012 3:26:44 AM UTC-6, dave poreh wrote:

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Hi Dave,

At the risk of getting flamed, you can use the undocumented "NSUM" keyword to the PLOT function:

```
r = randomn(s,1000) + findgen(1000)/300
```

```
void = LINFIT(findgen(1000),r,YFIT=yfit)
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```
p = plot(r, 'or', /SYM_FILLED, SYM_SIZE=0.5, NAME='Red data')
```

```
p1 = plot(r, 'ob', /SYM_FILLED, /OVERPLOT, NAME='Smoothed', nsum=20, /undoc)
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```
l = legend(POSITION=[0.8,0.3])
```

In this case, setting NSUM=20 just does a simple average of every 20 points and only plots a single point. Here's what it looks like:

<http://www.flickr.com/photos/79705059@N06/6986758828/>

Cheers,
Chris
ExelisVIS

Subject: Re: Time series.

Posted by [Kenneth P. Bowman](#) on Tue, 01 May 2012 20:33:17 GMT

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In article <11142809.2049.1335898665136.JavaMail.geo-discussion-forums@y njj16 >, Chris Torrence <gorthmog@gmail.com> wrote:

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I had better not catch my students hiding analysis operations inside a PLOT statement! ;-)

Ken

Subject: Re: Time series.

Posted by [d.poreh](#) on Wed, 02 May 2012 13:39:10 GMT

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On Tuesday, May 1, 2012 8:57:45 PM UTC+2, Chris Torrence wrote:

> On Monday, April 30, 2012 3:26:44 AM UTC-6, dave poreh wrote:
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Subject: Re: Time series.
Posted by chris_torrence@NOSPAM on Wed, 02 May 2012 14:54:07 GMT
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On Wednesday, May 2, 2012 7:39:10 AM UTC-6, dave poreh wrote:
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Hi Dave,

If you mean get the actual averaged numbers back out of the graph, you can't. Hence the reason for Ken's comment. That NSUM is purely used for visual results, although it would be easy to replicate the result using a simple binned average.

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Posted by [d.poreh](#) on Fri, 04 May 2012 05:50:21 GMT

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On Wednesday, May 2, 2012 4:54:07 PM UTC+2, Chris Torrence wrote:

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Hi Chris

Actually it is working pretty good for my data, but i need also fit line like this:

```
fit=linfit(x,y,yfit=yfit)
```

and for random data it is fine, but for GPS data, i have in some points several registered data, and the linfit does not work fine, so i was thinking to get the average data and do the fit on them, but looks like i can't. :-(

Thanks anyway,

Cheers,

Dave

PS. If you give me your email i could send you one of my data to look at them.

Subject: Re: Time series.

Posted by [russell.grew](#) on Sat, 05 May 2012 01:08:16 GMT

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Hi Dave,

My IDL is a little rusty. The crude example below should give you the idea behind the reverse indices and how to access the values in your bins.

Cheers.

```
z = randomn(7, 100) + findgen(100)/20.
```

```
hist = histogram(z, max =5., min = 0., binsize = 1., reverse_indices =  
r)
```

```
bin1 = r[r[0]:r[1] - 1]
```

```
bin2 = r[r[1]:r[2] - 1]
```

```
bin3 = r[r[2]:r[3] - 1]
```

```
bin4 = r[r[3]:r[4] - 1]
```

```
bin5 = r[r[4]:r[5] - 1]
```

```
results = ftarr(5)
```

```
results(0) = mean(z[bin1])
```

```
results(1) = mean(z[bin2])
```

```
results(2) = mean(z[bin3])
```

```
results(3) = mean(z[bin4])
```

```
results(4) = mean(z[bin5])
```

```
plot, findgen(100)/20, z
```

```
oplot, findgen(5) + 0.5, results, psym = 2
```
