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Subject: Re: interpolating missing data

Posted by [Martin Schultz](#) on Wed, 06 Jun 2001 08:55:29 GMT

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ignore\_this\_adress <ignore\_this\_adress@fgg.eur.nl> writes:

> Hello,  
>  
> I just came across a problem that should be relatively easy to solve. I  
> read a time series of a slowly varying scalar. However, in my original  
> data, some timepoints are missing. My read routine fills them up with  
> zeroes (all normal values are well above 0). When the routine finishes  
> I would like to automatically correct the data for the missing  
> timepoints. When using interpolate with the MISSING value, I end up with  
> the original dataset (syntax: pip = INTERPOLATE(p1, INDGEN(8197),  
> MISSING=0); where p1 is a float array with incidental zero  
> values).  
>  
> Am I using wrong syntax, or should I try a different approach. I  
> understand that I could do (linear) fitting around the missing data,  
> however, that would require more or less arbitrary choices on what data  
> to use, etc. I would greatly appreciate any suggestion for a more  
> wholistic approach :-).  
>  
> Mika  
>  
>

Oh! Holistic! Great! There are plenty of (thick) books available how to interpolate time series, and I am sure several people will not talk to you any longer if you don't use wavelets or some other fancy technique to do this ;-). But, seriously, you have to admit that you will have to make some assumptions about the data if you are going to interpolate them, and you should really know how your data behave before doing so.

Choosing the best interpolation technique depends on whether

- (1) the data are more or less linear (at least piecewise)
- (2) the data show a quasi-periodic signal (or you have to fill in minima and maxima)
- (3) you have a few or many small gaps that are more or less regularly distributed
- (4) you have a few or several large gaps and no idea what is going on in between
- (5) ...

I seem to recall that there is a special section on interpolation in the online help. Why not give that a glimpse?

Cheers,

Martin

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Subject: Re: interpolating missing data  
Posted by [R.Bauer](#) on Wed, 06 Jun 2001 11:33:01 GMT  
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Martin Schultz wrote:

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>
> ignore_this_adress <ignore_this_adress@fgg.eur.nl> writes:
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>> timepoints. When using interpolate with the MISSING value, I end up with
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>> MISSING=0); where p1 is a float array[8197] with incidental zero
>> values).
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>> Am I using wrong syntax, or should I try a different approach. I
>> understand that I could do (linear) fitting around the missing data,
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- > distributed
- > (4) you have a few or several large gaps and no idea what is going on
- > in between
- > (5) ...
- >
- > I seem to recall that there is a special section on interpolation
- > in the online help. Why not give that a glimpse?
- >
- > Cheers,
- >
- > Martin
- >

If you have correctly answered Martin's question you are allowed to use our `time_series_sync` routine.

[http://www.fz-juelich.de/icg/icg1/idl\\_icglib/idl\\_source/idl\\_html/dbase/download/time\\_series\\_sync.tar.gz](http://www.fz-juelich.de/icg/icg1/idl_icglib/idl_source/idl_html/dbase/download/time_series_sync.tar.gz)

For further routines and licensing please have a look at [http://www.fz-juelich.de/icg/icg1/idl\\_icglib/idl\\_lib\\_intro.html](http://www.fz-juelich.de/icg/icg1/idl_icglib/idl_lib_intro.html)

regards

Reimar

--

Reimar Bauer

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Forschungszentrum Juelich

email: R.Bauer@fz-juelich.de

<http://www.fz-juelich.de/icg/icg1/>

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a IDL library at Forschungszentrum Jülich

[http://www.fz-juelich.de/icg/icg1/idl\\_icglib/idl\\_lib\\_intro.html](http://www.fz-juelich.de/icg/icg1/idl_icglib/idl_lib_intro.html)

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