
Subject: Re: linfit with string time array (x)
Posted by [R.Bauer](#) on Mon, 10 Nov 2008 16:43:51 GMT
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-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

julia.walterspiel@gmail.com schrieb:

> hi
>
> i want to fit a line through my data with the linfit function but my x-
> axis is in string format. Is there a way to avoid transforming the
> string time array into non-string (e.g. other function which is as
> easy as linfit)?
>
> cheers
> juls

well you need floating point values.

and it is not difficult just write double(x) if you have many digits.

if the numbers are written in a time format it is better to show an
example. Those need to be converted into a number. I would suggest to
use julian seconds (seconds since 2000-01-01 00:00:00 UTC)

cheers
Reimar

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iD8DBQFJGGTF5aOc3Q9hk/kRAgZkAKCqpaj4km9s4V1tre57uVzPa19g5gCg tCPN
l9pwWZ9qlqW/e6Xb13C0vU8=
=Ed+7

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Subject: Re: linfit with string time array (x)
Posted by [lbnc](#) on Tue, 11 Nov 2008 05:45:01 GMT
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On 10 Nov, 16:43, Reimar Bauer <R.Ba...@fz-juelich.de> wrote:

>
> if the numbers are written in a time format it is better to show an
> example. Those need to be converted into a number. I would suggest to
> use julian seconds (seconds since 2000-01-01 00:00:00 UTC)

But why?! Why go through the bother when IDL has JULDAY and CALDAT?
With the LABEL_DATE function you get nice annotations of axes and you don't need to worry about whether the routines you download somewhere of the web are actually right.

To answer the original question, as Reimar already said, you need to convert the strings to some sort of numeric value, for example julian day. For that you need to parse the year, month, day, hour, minute, second from your string and pass the to, for example, JULDAY. The IDL documentation knows more about how to use JULDAY and LABEL_DATE.

Cheers
Lasse Clausen

Subject: Re: linfit with string time array (x)
Posted by [julia.walterspiel](#) on Tue, 11 Nov 2008 08:28:38 GMT
[View Forum Message](#) <> [Reply to Message](#)

On 11 Nov., 06:45, l...@lbnc.de wrote:

> On 10 Nov, 16:43, Reimar Bauer <R.Ba...@fz-juelich.de> wrote:

>

>

>

>> if the numbers are written in a time format it is better to show an
>> example. Those need to be converted into a number. I would suggest to
>> use julian seconds (seconds since 2000-01-01 00:00:00 UTC)

>

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> With the LABEL_DATE function you get nice annotations of axes and you
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> of the web are actually right.

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> To answer the original question, as Reimar already said, you need to
> convert the strings to some sort of numeric value, for example julian
> day. For that you need to parse the year, month, day, hour, minute,
> second from your string and pass the to, for example, JULDAY. The IDL
> documentation knows more about how to use JULDAY and LABEL_DATE.

>

> Cheers
> Lasse Clausen

hi guys

well I thought I had already converted the string to some sort of numeric value but I guess it was just the problem of doing what Reimar said (new = double(date)). here's how I extracted my date from the file name:

```
date = STRMID(filename_short, 10,7)
year = Fix(StrMid(StrTrim(date,2), 0, 4))
dayofyear = Fix(StrMid(StrTrim(date,2), 4, 3))
CALDAT, JULDAY(1, dayofyear, year), month, day
date = julday(month, day, year)
```

--> then my date of data looks like this: 2451605

That's what confuses me; a number that is obviously considered a string. so I guess IDL doesn't take the "number" but rather what is behind the calculation (julday) and refers to that as a string? Or am I misunderstanding something?

It works fine when I convert it to double, so thanks for that input. I

Subject: Re: linfit with string time array (x)
Posted by [R.Bauer](#) on Tue, 11 Nov 2008 08:38:56 GMT
[View Forum Message](#) <> [Reply to Message](#)

lbnc@lbnc.de schrieb:

> On 10 Nov, 16:43, Reimar Bauer <R.Ba...@fz-juelich.de> wrote:
>> if the numbers are written in a time format it is better to show an
>> example. Those need to be converted into a number. I would suggest to
>> use julian seconds (seconds since 2000-01-01 00:00:00 UTC)
>
> But why?! Why go through the bother when IDL has JULDAY and CALDAT?
> With the LABEL_DATE function you get nice annotations of axes and you
> don't need to worry about whether the routines you download somewhere
> of the web are actually right.

Well you have to write your own tests for nearly everything you use or program by your own (or have been by others). A simple doctest example in the code does help a lot. (idl has no unittest framework)

Sometimes you should use a calculator or/and look into some book of tables. And if you look into books it is better to not believe only on one book. ;)

I never have seen any unit tests by idl developing team in the last 15 years. But I have send them some test examples for every bug I found. So we can assume they do unittests. But they are not part of the product.

Sometimes it is better to use your own well tested routine. ;)

>
> To answer the original question, as Reimar already said, you need to
> convert the strings to some sort of numeric value, for example julian
> day. For that you need to parse the year, month, day, hour, minute,

> second from your string and pass the to, for example, JULDAY. The IDL
> documentation knows more about how to use JULDAY and LABEL_DATE.

If you like julday just use julday. :)

cheers
Reimar

Subject: Re: linfit with string time array (x)
Posted by [R.Bauer](#) on Tue, 11 Nov 2008 08:51:21 GMT
[View Forum Message](#) <> [Reply to Message](#)

julia.walterspiel@gmail.com schrieb:

> On 11 Nov., 06:45, I...@lbnc.de wrote:

>> On 10 Nov, 16:43, Reimar Bauer <R.Ba...@fz-juelich.de> wrote:

>>

>>

>>

>>> if the numbers are written in a time format it is better to show an
>>> example. Those need to be converted into a number. I would suggest to
>>> use julian seconds (seconds since 2000-01-01 00:00:00 UTC)

>> But why?! Why go through the bother when IDL has JULDAY and CALDAT?

>> With the LABEL_DATE function you get nice annotations of axes and you

>> don't need to worry about whether the routines you download somewhere

>> of the web are actually right.

>>

>> To answer the original question, as Reimar already said, you need to

>> convert the strings to some sort of numeric value, for example julian

>> day. For that you need to parse the year, month, day, hour, minute,

>> second from your string and pass the to, for example, JULDAY. The IDL

>> documentation knows more about how to use JULDAY and LABEL_DATE.

>>

>> Cheers

>> Lasse Clausen

>

> hi guys

> well I thought I had already converted the string to some sort of

> numeric value but I guess it was just the problem of doing what Reimar

> said (new = double(date)). here's how I extracted my date from the

> file name:

>

> date = STRMID(filename_short, 10,7)

> year = Fix(StrMid(StrTrim(date,2), 0, 4))

> dayofyear = Fix(StrMid(StrTrim(date,2), 4, 3))

> CALDAT, JULDAY(1, dayofyear, year), month, day

> date = julday(month, day, year)

>

> --> then my date of data looks like this: 2451605

```
IDL> date = julday(1, 1, 2008)
% Compiled module: JULDAY.
IDL> print,date
    2454467
IDL> help,date
DATE      LONG    =    2454467
```

If you use help you get the type of the var. It is of type long not string.

If you haven't read the article
http://www.dfanning.com/math_tips/sky_is_falling.html
it is quite interesting to see how a computer knows a number.

>
> That's what confuses me; a number that is obviously considered a
> string. so I guess IDL doesn't take the "number" but rather what is
> behind the calculation (julday) and refers to that as a string? Or am
> I misunderstanding something?
> It works fine when I convert it to double, so thanks for that input. I

you are welcome

cheers
Reimar

Subject: Re: linfit with string time array (x)
Posted by [David Fanning](#) on Tue, 11 Nov 2008 13:36:09 GMT
[View Forum Message](#) <> [Reply to Message](#)

Reimar Bauer writes:

> If you like julday just use julday. :)

I will point out that if you like JULDAY and use it,
sooner or later it is going to confuse you. It confused
me so much I apparently wrote two articles about the
problem. Take your pick:

http://www.dfanning.com/misc_tips/julday.html
http://www.dfanning.com/misc_tips/julianday.html

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: linfit with string time array (x)

Posted by [David Fanning](#) on Tue, 11 Nov 2008 13:39:24 GMT

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David Fanning writes:

- > I will point out that if you like JULDAY and use it,
- > sooner or later it is going to confuse you. It confused
- > me so much I apparently wrote two articles about the
- > problem. Take your pick:
- >
- > http://www.dfanning.com/misc_tips/julday.html
- > http://www.dfanning.com/misc_tips/julianday.html

Well, one of those articles was written by Mark

Had field. (The best one). Probably why I didn't remember it in the first place. ;-)

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: linfit with string time array (x)

Posted by [Michael Galloy](#) on Tue, 11 Nov 2008 20:31:00 GMT

[View Forum Message](#) <> [Reply to Message](#)

On Nov 11, 1:38 am, Reimar Bauer <R.Ba...@fz-juelich.de> wrote:

- > program by your own (or have been by others). A simple doctest example
- > in the code does help a lot. (idl has no unittest framework)

Nothing part of IDL's library, but I do have a unit testing framework:

<http://michaelgalloy.com/2007/07/03/update-to-mgunit.html>

By the way, do you have an automated way to run the doctest examples you are talking about? I have thought about adding something like that to IDLdoc.

Mike

--

www.michaelgalloy.com

Tech-X Corporation

Associate Research Scientist
