
Subject: replacing "NaN" values using interpolation in IDL

Posted by [abc](#) on Thu, 17 Jan 2013 10:02:14 GMT

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Dear all, I have an data array. I have many "NaN" values. I want to replace those "NaN" values by the nearby values either using interpolation. Is there any way to do that in IDL.

Thanks in advance

Subject: Re: replacing "NaN" values using interpolation in IDL

Posted by [Dick Jackson](#) on Wed, 30 Jan 2013 00:47:19 GMT

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Dear idlhelp,

That's even easier, assuming that you mean that your data 'x' values are evenly spaced, and can be considered to be [0, 1, 2, ...]

Building on Jeremy's work:

```
; sample data
```

```
data = [0., !values.f_nan, 10., 15., !values.f_nan, !values.f_nan, 5., 4., 5.]
```

```
; figure out where there are NaNs and where the useful data are
```

```
; Dick prefers "Finite(data)" to "data EQ data" for finding non-NaN :-)
```

```
gooddata = where(Finite(data), ngooddata, comp=baddata, ncomp=nbaddata)
```

```
; interpolate at the locations of the bad data using the good data
```

```
if nbaddata gt 0 then data[baddata] = interpol(data[gooddata], gooddata, baddata)
```

Hope this helps!

-Dick

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On Monday, January 28, 2013 9:27:36 AM UTC-8, idlhelp wrote:

> On Thursday, January 17, 2013 4:05:11 PM UTC+1, Jeremy Bailin wrote:

>

>> On 1/17/13 4:02 AM, idlhelp wrote:

>>> Dear all, I have an data array. I have many "NaN" values. I want to replace those "NaN" values by the nearby values either using interpolation. Is there any way to do that in IDL.

>>>

>>> Thanks in advance

>

```
>> Yes, there is.
>>
>> Oh, you want to know how? ;-)
>>
>> I would do something like this, if I had an array of locations x and a
>> data array data:
>>
>> ; sample data
>> x = [1., 2., 3., 5., 7., 7.5, 9., 12., 12.1]
>> data = [0., !values.f_nan, 10., 15., !values.f_nan, !values.f_nan, 5.,
>> 4., 5.]
>>
>> ; figure out where there are NaNs and where the useful data are
>> gooddata = where(data eq data, ngooddata, $
>>   comp=baddata, ncomp=nbaddata)
>>
>> ; interpolate at the locations of the bad data using the good data
>> if nbaddata gt 0 then begin
>>   data[baddata] = interpol(data[gooddata], x[gooddata], x[baddata])
>> endif
>
>> -Jeremy.
>
> Thanks Jeremy, but the problem I am having is that I don't have any sample data 'x'. I have
> only 'data' and want to use that 'data' file again for interpolating and replacing the NaN value. Any
> Idea how to do that.
>
> thanks
```

Subject: Re: replacing "NaN" values using interpolation in IDL
Posted by [Jeremy Bailin](#) on Wed, 30 Jan 2013 02:37:23 GMT
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> ; Dick prefers "Finite(data)" to "data EQ data" for finding non-NaN :-)

I must admit, the silliness factor is the main reason I use the "data EQ data" convention. :-)

-Jeremy.

Subject: Re: replacing "NaN" values using interpolation in IDL
Posted by [David Fanning](#) on Wed, 30 Jan 2013 03:12:08 GMT
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Jeremy Bailin writes:

> I must admit, the silliness factor is the main reason I use the "data EQ
> data" convention. :-)

Ha, ha! I love this newsgroup. ;-)

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.")

Subject: Re: replacing "NAN" values using interpolation in IDL
Posted by [Carsten Lechte](#) on Wed, 30 Jan 2013 09:18:53 GMT
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On 30/01/13 03:37, Jeremy Bailin wrote:

> I must admit, the silliness factor is the main reason I use the "data
> EQ data" convention. :-)

Alas, no silliness without punishment: this method fails on windows

IDL <=5.6, see last entry on

<http://www.idlcoyote.com/math_tips/nans.html>. Fortunately, that
version is so old, that even MY place of employment has a newer one.

chl

Subject: Re: replacing "NAN" values using interpolation in IDL
Posted by [Chang Liao](#) on Thu, 11 Apr 2013 14:31:45 GMT
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On Wednesday, January 30, 2013 4:18:53 AM UTC-5, Carsten Lechte wrote:

> On 30/01/13 03:37, Jeremy Bailin wrote:

>

>> I must admit, the silliness factor is the main reason I use the "data

>

>> EQ data" convention. :-)

>

>

>

> Alas, no silliness without punishment: this method fails on windows
>
> IDL <=5.6, see last entry on
>
> <http://www.idlcoyote.com/math_tips/nans.html>. Fortunately, that
>
> version is so old, that even MY place of employment has a newer one.
>
>
>
>
>
> chl

Yh, I have read that article as well. This is a pretty interesting topic of handling NAN in data.
