
Subject: Re: Correlate function (bug?)

Posted by [thompson](#) on Mon, 16 Mar 1998 08:00:00 GMT

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Theo Brauers <Th.Brauers@fz-juelich.de> writes:

> Hi

> I was facing a problem with the correlate function

> which is demonstrated by the following IDL procedure:

```
> pro testc
> x=[1.D-5, 1.D-6, 0.0]
> y=[1.D-5, 1.1D-6, 0.0]
> f=[1.D0, 1.D1, 1.D2, 1.D3, 1.D4, 1.D5, 1.D6]
> for i=0,6 do begin
>   print, i, correlate(x,y, /double) $
>   , correlate(x,y*f[i], /double) $
>   , correlate(x*f[i],y, /double) $
>   , correlate(x*f[i],y*f[i], /double)
> endfor
> END
```

> giving the following result:

```
> 0    1.#QNAN00    1.#QNAN00    1.#QNAN00    1.#QNAN00
> 1    1.#QNAN00    1.#QNAN00    1.#QNAN00    1.#QNAN00
> 2    1.#QNAN00    1.#QNAN00    1.#QNAN00    1.#QNAN00
> 3    1.#QNAN00    1.#QNAN00    1.#QNAN00    0.99995432
> 4    1.#QNAN00    1.#QNAN00    1.#QNAN00    0.99995432
> 5    1.#QNAN00    0.99995432    0.99995432    0.99995432
> 6    1.#QNAN00    0.99995432    0.99995432    0.99995432
```

> In my opinion there is no reason for an underflow or whatever causes
> correlate to return NAN.

> Best Theo

This behavior seems to have been introduced in IDL version 5. IDL/v4 doesn't have any problem, and returns the result

```
0    0.99995432    0.99995432    0.99995432    0.99995432
1    0.99995432    0.99995432    0.99995432    0.99995432
2    0.99995432    0.99995432    0.99995432    0.99995432
3    0.99995432    0.99995432    0.99995432    0.99995432
4    0.99995432    0.99995432    0.99995432    0.99995432
5    0.99995432    0.99995432    0.99995432    0.99995432
6    0.99995432    0.99995432    0.99995432    0.99995432
```

