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
```