
Subject: Re: WRONG RESULTS WITH IDL

Posted by [Thomas A. McGlynn](#) on Tue, 05 May 1998 07:00:00 GMT

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Frank Loewenthal wrote:

>
> Hi Folks
>
> For calculation of beam-propagation I use IDL. But now I realize that
> for large arguments, even with double-precision, IDL gives wrong
> results:
> For example:
>
> sin(12345678901.12345678901) = -03727 9004 9960 8007
>
> where IDL get:
>
> IDL> x = double(12345678901.12345678901)
> IDL> print, sin(x)
> 0.098761418
>
> Can somebody confirm this result, and does anybody know the solution
> to overcome this problem?
>
> Best regards
>
> Frank

You're misunderstanding how to create a double precision literal in IDL. E.g.:

```
IDL> x=12345678901.12345678901
IDL> print,sin(x)
0.0987614
IDL> x=12345678901.12345678901d0
IDL> print,sin(x)
-0.37327885
```

In the first case the literal value is interpreted in single precision and then assigned to x. To preserve the precision you need to indicate that it's a double precision value.

Regards,
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