
Subject: Re: IDL is not accurate enough!

Posted by [David Fanning](#) on Thu, 28 Aug 2008 16:35:47 GMT

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noahh.schwartz@gmail.com writes:

- > I've been having problems with IDL accuracy. I'm trying to perform
- > calculations using the gamma function. The problem is that it grows
- > VERY fast! Performing this calculation in double (namely gamma(x)/
- > gamma(y) with x and y big) yields the result: NaN...
- > Would it be possible to use a program like 'Mathematica' (or any
- > other) and to plug it in my ILD program? Some kind of CALL_EXTERNAL
- > that is to say. If it is possible, how can I do it and what is the
- > best program to use?

It seems *highly* unlikely to me that IDL's implementation of DOUBLE is any less accurate than any other program's implementation. In fact, this probably has something to do with the *computer* and not with the program. :-)

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming (www.dfanning.com)

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

Subject: Re: IDL is not accurate enough!

Posted by [Foldy Lajos](#) on Thu, 28 Aug 2008 16:42:11 GMT

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On Thu, 28 Aug 2008, noahh.schwartz@gmail.com wrote:

- > Hi,
- >
- > I've been having problems with IDL accuracy. I'm trying to perform
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- >

> Thanks,
> Noah
>

$\text{gamma}(x)/\text{gamma}(y) \Rightarrow \exp(\ln\text{gamma}(x) - \ln\text{gamma}(y))$

regards,
lajos

Subject: Re: IDL is not accurate enough!
Posted by [Kenneth P. Bowman](#) on Thu, 28 Aug 2008 20:50:47 GMT
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In article <MPG.232081d2b8625528989730@news.giganews.com>,
David Fanning <news@dfanning.com> wrote:

> noahh.schwartz@gmail.com writes:
>
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>> calculations using the gamma function. The problem is that it grows
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Mathematica can do arbitrary-precision arithmetic ... with hundreds of digits,
if necessary. Don't expect it to be fast, though, as it is all done
in software, not with the hardware floating-point unit with which we
normally do single- and double-precision arithmetic.

Ken

Subject: Re: IDL is not accurate enough!
Posted by [rtk](#) on Thu, 04 Sep 2008 18:46:16 GMT
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On Aug 28, 2:50 pm, "Kenneth P. Bowman" <k-bow...@null.edu> wrote:
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Check on the IDL code contrib site sometime next week. I just uploaded DLMS that add arbitrary precision floating point as well as integer and rational types to IDL. These are wrappers on the MPFR and GMP libraries, respectively. Caveat emptor, but I'll answer emails. You will need to recompile if using something later than IDL 6.3. Examples included.

Ron Kneusel
rkneusel@ittvis.com

Subject: Re: IDL is not accurate enough!
Posted by [Haje Korth](#) on Mon, 08 Sep 2008 13:45:45 GMT
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Ron,
that code sounds interesting. Can you provide me with a direct link to the page. The new interface is completely unusable for me and search does not give any results.

Thanks,
Haje

"rtk" <oneelkruns@hotmail.com> wrote in message
news:e32f4688-b58e-4f27-b2f9-17faea24285a@i24g2000prf.google groups.com...

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>

- > Ron Kneusel
- > rkneusel@ittvis.com

>

Subject: Re: IDL is not accurate enough!

Posted by [noahh.schwartz](#) on Thu, 11 Sep 2008 14:10:41 GMT

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On 28 août, 18:42, FÖLDY Lajos <fo...@rmki.kfki.hu> wrote:

> On Thu, 28 Aug 2008, noahh.schwa...@gmail.com wrote:

>> Hi,

>

>> I've been having problems with IDL accuracy. I'm trying to perform
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>> best program to use?

>

>> Thanks,

>> Noah

>

> gamma(x)/gamma(y) => exp(lngamma(x)-lngamma(y))

>

> regards,

> lajos

lngamma works fine for my propose! Would you know if an equivalent
function exists for the beselk function? Something like lnbeselk?
beselk(x) for x>709 doesn't seem to work.

If not, I guess that I'll have to wait for the DLMS that add arbitrary
precision floating point...

cheers,

Noah
