Subject: Re: a plea for more reliable mathematical routines
Posted by meron on Sat, 11 Sep 1999 07:00:00 GMT
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In article <7re25advm1@news.doit.wisc.edu>, "Liam Gumley" <Liam.Gumley@ssec.wisc.edu> writes:
> I believe there is a market for either an add-on Mathematical Toolbox, or
> preferably built-in access to a selection of routines from a well-respected
> mathematical library like BLAS, LAPACK, CMLIB, NAG etc. For example, NAG
> developed an add-on library for Matlab:
>
> http://www.nag.co.uk/nagware/NN.html
>
> I think many people would be more than willing to either upgrade their IDL
> version, or buy an add-on toolbox, if it gave them access to a set of
> high-quality numerical routines. A user survey would no doubt tell RSI very
> quickly which routines people would like to see (Bessel functions and random
> numbers have been mentioned).
>
Well, I'm using my own math routines for anything that really matters, at least I know what's in them and how far I can trust them. Some significant problems with the IDL math routines I can think about off hand (other than outright errors, at times, are:

1) Special functions only working for real input, not complex. Downright tidiculous implementation since usually same algorithm that works in the real domain will work in the complex one as well.

2) The implementation of double precision borders on the fraudelent. What I mean is, most special functions accept a keyword /DOUBLE and, when set, will return a double precision result. When one checks the output, though, one finds that this is still a result of a single precision calculation, only recast to type DOUBLE. This is worse than being said on the onset that double precision is not available. And, again, it is ridiculous since same algorithms that work for single will work for double as well.

Mati Meron | "When you argue with a fool,
meron@cars.uchicago.edu | chances are he is doing just the same"