Subject: modified bessell functions
Posted by Michael Asten on Tue, 30 Mar 1999 08:00:00 GMT
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Any one know of routines to compute modified bessell functions In(z) and Kn(z),

where n=0 or 1, and z is a complex argument. The idl library routine beselli(x,n)

provides In for real arguments only, (but if fed a complex argument it seems to cheerily ignore the imaginary part without comment!)

Thanks and regards, Michael Asten

Subject: Re: modified bessell functions
Posted by Michael Asten on Fri, 09 Apr 1999 07:00:00 GMT
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Just for the archive record, I'm posting an answer to my own question. I found siutable fortran77 routines which are free to use conditional on acknowledgement (given below) and translated line-for-line to idl5.2.

As a matter of interest, the runtime comparision for 10000 calls with complex argument is 11 sec in idl vs 3 sec in Lahey fortran 90 (standard opt). I'm quite impressed; I expected greater overheads for idl considering the fortran loops and goto statments were left intact.

Of course, another answer to my question would be to use pv-wave; - the IMSL library within pv-wave has the desired complex bessel functions built in!

Regards, Michael Asten

Michael Asten wrote:

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- > Kn(z),
- > where n=0 or 1, and z is a complex argument. The idl library routine
- > beselli(x,n)
- > provides In for real arguments only, (but if fed a complex argument it
- > seems to cheerily ignore the imaginary part without comment!)
- > Thanks and regards,
- > Michael Asten