Subject: Re: Bug (still) in NR_QROMB, QROMB
Posted by kommers on Thu, 31 Aug 1995 07:00:00 GMT
View Forum Message <> Reply to Message

Bob Mallozzi wrote:
> ; There appears to be a bug in the routines NR_QROMB and QROMB if you call
> ; the functions recursively. I included a test program below.
> ; I notified RSI several months ago about this, but apparently the error
> ; never got corrected. Be careful how you construct the calling sequences
> ; for these routines!
> ;
> etc. etc. etc....

I've been bit by this problem with other packages as well, in particular the routines from _Numerical Recipes in Fortran_ by Press, et. al.; so I'm not sure it is really a *bug* as much as it is something to look out for. In the Numerical Recipes routines, I needed a separate copy of each quadrature function for each dimension I was integrating over.

For example, when doing multiple integrals, each call to the outer 'QROMB' generates a bunch of calls to itself to do the inner integral; but this type of recursion is not supported by these routines so a wrong answer is obtained. The fact that it works when one call is DOUBLE and the other call is FLOAT suggests to me that in that case two instances of 'QROMB' exist: one for float and one for double. Hence, the call is not recursive because there are two distinct copies of the quadrature function.

I agree that RSI should either support recursion on these routines or at least put a warning in the on-line help or manuals (I haven't seen one).

Does int_2d() or int_3d() work for your application?

Good luck,

Jeff