
Subject: Re: qsimp, qromb, qromo
Posted by [Craig Markwardt](#) on Thu, 03 Jun 2004 20:29:16 GMT
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gnarloo@libero.it (michele) writes:

- > Dear all,
- > I'm new to this newsgroup so first of all, hello everybody!
- >
- > The problem i encountered is the following:
- >
- > I tried to use
- > qsimp and qromb to integrate a couple of functions (scattering
- > problems, nothing special) but the system crashes..

I've never found the IDL integration routines to be particular useful.

You might try my adaptive routine, QPINT1D. Which is based on the tried and trusted library called Quadpack.

- > I tried to integrate $\cos(x)$ between 0 and pi (the result is obviously
- > zero)
- > and these functions give out some kind of error message but not the
- > result..

Example:

```
print, qpint1d('cos(x)', /expression, 0d, !dpi)
      4.7089631e-17
```

...which is as close to zero as you are practically going to get.

Of course, you can also integrate pure IDL functions rather than IDL expressions, but the /EXPRESSION option can be very useful at the command line.

Craig

<http://cow.physics.wisc.edu/~craigm/idl/idl.html> (under Mathematics)

--

Craig B. Markwardt, Ph.D. EMAIL: craigmnet@REMOVEcow.physics.wisc.edu
Astrophysics, IDL, Finance, Derivatives | Remove "net" for better response

Subject: Re: qsimp, qromb, qromo

Posted by [mmeron](#) on Thu, 03 Jun 2004 21:17:22 GMT

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In article <b3eff7b0.0406031146.1be4bb29@posting.google.com>, gnarloo@libero.it (michele) writes:

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> I tried to use

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> problems, nothing special) but the system crashes..

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> I tried to integrate $\cos(x)$ between 0 and pi (the result is obviously

> zero)

> and these functions give out some kind of error message but not the

> result..

>

> so i turned to write the code myself as i used to do when i was an

> undergraduate student using old riemann sums and old fortran, but as

> this approach is a bit time-consuming i have one question:

>

> is there any trick I can use or these functions only sometimes work?

> (for example if you integrate $\sin(x)$ on the same interval as above

> they give out

> the right result.

>

> Personally I can't believe the problem is in the algorithm (Simpson

> rule works, Romberg method I don't know it)...

>

I'm not much familiar with IDL's implementation of Romberg's method since I'm using my own. So, from my own experience, I can attest that Romberg, when properly implemented, works beautifully.

Mati Meron

| "When you argue with a fool,

meron@cars.uchicago.edu

| chances are he is doing just the same"

Subject: Re: qsimp, qromb, qromo

Posted by [gnarloo](#) on Thu, 10 Jun 2004 18:21:43 GMT

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dear craig thanks very much for your answer

and for all the routines you made available on your web site.

just one more favour,

do you know an alternative to IDL standard routine to find eigenvectors and

eigenvalues of a complex symmetric matrix (real on the diagonal and complex conjugate elsewhere??)
it sometimes crashes...

thanks in advance.
michael
