

# CQUAD

## A Quick References Guide

### Function Prototype

double cquad\_dqng(double f(), double a, double b, double epsabs, double epsrel, double \*abserr, int \*neval, int \*ier)

double cquad\_dqag(double f(), double a, double b, double epsabs, double epsrel, int key, double \*abserr, int \*neval, int \*ier, int \*last, int \*iwork, double \*work)

double cquad\_dqage(double f(), double a, double b, double epsabs, double epsrel, int key, double \*abserr, int \*neval, int \*ier, double \*alist, double \*blist, double \*rlist, double \*elist, int \*iord, int \*last)

double cquad\_dqags(double f(), double a, double b, double epsabs, double epsrel, double \*abserr, int \*neval, int \*ier, int \*last, int \*iwork, double \*work)

double cquad\_dqagse(double f(), double a, double b, double epsabs, double epsrel, double \*abserr, int \*neval, int \*ier, double \*alist, double \*blist, double \*rlist, double \*elist, int \*iord, int \*last)

double cquad\_dqagp(double f(), double a, double b, int npts2, double \*points, double epsabs, double epsrel, double \*abserr, int \*neval, int \*ier, int \*last, int \*iwork, double \*work)

double cquad\_dqagpe(double f(), double a, double b, int npts2, double \*points, double epsabs, double epsrel, double \*abserr, int \*neval, int \*ier, double \*alist, double \*blist, double \*rlist, double \*elist, double \*pts, int \*iord, double \*level, int \*ndin, int \*last)

double cquad\_dqagi(double f(), double bound, int inf, double epsabs, double epsrel, double \*abserr, int \*neval, int \*ier, int \*last, int \*iwork, double \*work)

double cquad\_dqagie(double f(), double bound, int inf, double epsabs, double epsrel, double \*abserr, int \*neval, int \*ier, double \*alist, double \*blist, double \*rlist, double \*elist, int \*iord, int \*last)

double cquad\_dqawo(double f(), double a, double b, double omega, int integr, double epsabs, double epsrel, double \*abserr, int \*neval, int \*ier, int \*last, int \*iwork, double \*work)

double cquad\_dqawoe(double f(), double a, double b, double omega, int integr, double epsabs, double epsrel, double \*abserr, int \*neval, int \*ier, double \*alist, double \*blist, double \*rlist, double \*elist, int \*iord, int \*last, int \*nnlog, double \*\*chebmo)

double cquad\_dqawf(double f(), double a, double omega, int integr, double epsabs, double \*abserr, int \*neval, int \*ier, int \*lst, int \*iwork, double \*work)

double cquad\_dqawfe(double f(), double a, double omega, int integr, double epsabs, double \*abserr, int \*neval, int \*ier, double \*rslst, double \*erlst, int \*ierlst, int \*lst, double \*alist, double \*blist, double \*rlist, double \*elist, int \*iord, int \*nnlog, double \*\*chebmo)

double cquad\_dqaws(double f(), double a, double b, double alfa, double beta, int integr, double epsabs, double epsrel, double \*abserr, int \*neval, int \*ier, int \*last, int \*iwork, double \*work)

double cquad\_dqawse(double f(), double a, double b, double alfa, double beta, int integr, double epsabs, double epsrel, double \*abserr, int \*neval, int \*ier, double \*alist, double \*blist, double \*rlist, double \*elist, int \*iord, int \*last)

double cquad\_dqawc(double f(), double a, double b, double c, double epsabs, double epsrel, double \*abserr, int \*neval, int \*ier, int \*last, int \*iwork, double \*work)

double cquad\_dqawce(double f(), double a, double b, double c, double epsabs, double epsrel, double \*abserr, int \*neval, int \*ier, double \*alist, double \*blist, double \*rlist, double \*elist, int \*iord, int \*last)

## Meaning of common parameters

f	function subprogram defining the integrand function
a	lower limit of integration
b	upper limit of integration
c	parameter in the weight functions
epsabs	absolute accuracy requested
epsrel	relative accuracy requested
abserr	estimate of the modulus of the absolute error
neval	number of integrand evaluations
ier	normal/abnormal termination flag

For a completely description of all parameters used in CQUAD functions see the internal documentation.

N.b.: in all CQUAD functions the double value returned is the value for the approximation to the integral.

Send comments and questions to:

Salvatore Cuomo ([salvatore.cuomo@dma.unina.it](mailto:salvatore.cuomo@dma.unina.it))  
Gianluca Russo ([gianlurusso@fastwebnet.it](mailto:gianlurusso@fastwebnet.it))