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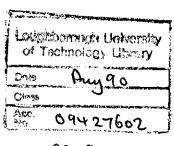
# Numerical Quadrature

# and its Applications

# **Software Section**

by

G. A. Evans



y9319708

# Contents

Prog	Title	Reference
1	Multiple Precision Arithmetic	Algol 68 NAG library
$\overline{2}$	Interval arithmetic package	Algol 68 NAG library
3	General standard multidimensional	•
Ū	integrator	*
4	An adaptive integrator	*
5	Newton-Cotes oscillatory integrator	C. J. 18, No. 2, (1975)
6	Bessel functions	Maths. Res. 53, (1975)
7	Finite range oscillatory integrals	C. J. 19 No. 3, (1976)
8	Infinite range oscillatory	, , ,
•	integrals	J. Comp. Phys. 13, (1973)
9	The routine infint	J. Comp. Phys. 13, (1973)
		J. Comp. Phys. 22, (1976)
10	Singular quadrature with	- , , , ,
	accelerators	Int. J. Comp. Math. 12, (1983)
11	Singular quadratures by	Int. J. Comp. Maths. 15, (1984)
	transformation	Int. J. Comp. Math. 27,(1989)
12	Two dimensional singular	Int. J. Comp. and
	quadrature	Appl. Math. 24, (1988)
13	Three dimensional singular	Int. J. Comp. and
	quadrature	Appl. Math., (1989)
14	Non-linear integral equations	Int. J. Comp. Math. 11,(1982)
15	Non-linear integral equations	
	variational method	Int. J. Comp. Maths. 22, (1987)
16	Hartree-Fock atomic systems	Int.J. Quantum Chem. 12, (1977)
17	Ion beam model	Vacuum 34,(1984)
		Vacuum 36,(1986)
18	Eddy current model	Proc. Eddy current sem.,(1988)
		1 11 1 1 1

<sup>\*</sup> These routines implement standard methods and have been used extensively to generate comparative results throughout the work.