

# Table of Contents

C  
o  
n  
t  
e  
n  
t  
s

# 1. Introduction

## 2. Mathematical Functions

# 3. Random Numbers

## 4. Linear Systems of Equations and Linear Least-Squares

# 5. Matrix Eigenvalues and Eigenvectors

## 6. Matrix-Vector Utility Subprograms

## 7. Polynomial Rootfinding

## 8. Nonlinear Equation Solving

## 9. Minimization

# 10. Finite Fourier Transforms

# 11. Curve Fitting

11.  
C  
u  
r  
v  
e  
F  
i  
t  
t  
i  
n  
g

## 12. Table Lookup & Interpolation

## 13. Definite Integrals (Quadrature)

# 14. Ordinary Differential Equations

14.

E  
D  
i  
f  
f  
e  
r  
e  
n  
t  
i  
a  
l

# 15. Statistics

## 16. Graphics

**17. Special  
Arithmetic**

17.

S  
p  
e  
c  
i  
a  
l  
  
A  
r  
i  
t  
h  
m  
e  
t  
i  
c

## 18. Sorting

## 19. Library Utilities

19.

U  
t  
i  
l  
i  
t  
i  
e  
s  
L  
i  
b  
r  
a  
r  
y

# A. Files Required by Each Entry

A.  
R  
e  
q  
u  
i  
r  
e  
d

**B. Entry Names and  
Common Block Names**

**B.**  
a  
n  
d  
C  
o  
m  
m  
o  
n  
N  
a  
m  
e  
s

C. Usage of the  
*mathc90* Library

**D. Function Prototypes for  
the *mathc90* Library**

D.  
P  
r  
o  
t  
o  
t  
y  
p  
e  
s

**Index**

I  
n  
d  
e  
x