

## TABLE OF CONTENTS

NEARLY INTEGRABLE AND INTEGRABLE SYSTEMS Jürgen Moser	1
REGULAR AND IRREGULAR MOTION Michael V. Berry . . . . .	16
A PICTURE BOOK OF STOCHASTICITY Joseph Ford . . . . .	121
THEORY OF CHAOTIC MOTION WITH APPLICATION TO CONTROLLED FUSION RESEARCH Yvain M. Treve . . . . .	147
SOME ILLUSTRATIONS OF STOCHASTICITY L. Jackson Laslett	221
AN ILLUSTRATIVE EXAMPLE OF THE CHIRIKOV CRITERION FOR STOCHASTIC INSTABILITY Paul J. Channell . . . . .	248
SIMPLE PERIODIC ORBITS Alan Weinstein . . . . .	260
VARIATIONAL SOLUTIONS OF NON-INTEGRABLE SYSTEMS Robert H. G. Helleman . . . . .	264
THE LIE TRANSFORM: A NEW APPROACH TO CLASSICAL PERTURBATION THEORY Allan N. Kaufman . . . . .	286
DISCUSSION OF SOME WEAKLY NONLINEAR SYSTEMS IN CONTINUUM MECHANICS Jim Meiss and Kenneth Watson . . . . .	296
ORDER AND DISORDER IN NONLINEAR FLUID MOTIONS Greg Holloway . . . . .	324
ON THE SOLUTION OF NONLINEAR RATE EQUATIONS BY MATRIX INVERSION Elliott W. Montroll	337
INTEGRATION OF LINEARIZED NONLINEAR EVOLUTION EQUATIONS Kenneth M. Case . . . . .	360
THE DISK DYNAMO Edward Bullard . . . . .	373
THE ERRATIC ELECTRON: NONLINEAR EFFECTS IN THE THEORY OF THE ELECTRON A. O. Barut	390
APPENDIX: DYNAMICS REVISITED, A GLOSSARY Robert H. G. Helleman . . . . .	400

