TABLE OF CONTENTS

FOREWORD

PREFACE	vii
ACKNOWLEDGEMENT	viii
T. HINTON Simulation and Modelling: The Algorithmic Approach	1
H. SIMON Modelling in University Science Teaching Using an Interactive Graphical Simulation System	23
J.P. DENIS, AM. HUYNEN, ML. and M. LEBRUN, A. MARTEGANI, P. MINE Simulation and Learning by Discovery	35
K. AHMAD, W.D. MOSS, P.R. KNOWLES Simulation, Modelling and Computer Graphics: Experience with an Undergraduate Civil Engineering Course	43
R.D. WOOD, B.E. BARKER, P. TOWNSEND The Development and Transfer of Interactive Graphics Programs for Teaching Structural Appreciation	65
D.M. LAURILLARD The Promotion of Learning Using CAL	83
A.M. HUYNEN Methodology of Learning by Discovery and Examples from a Basic Physics Course	91
D. WILDENBERG Considerations on Computer Graphics for the Use by Small Groups	101
M. COX, D. LEWIS Developing CAL for a Vibrations and Waves Course	107
J. FENCLOVÁ-BROCKMEYER The Simulation of the Double-Slit-Experiment at Low Intensity of Light	117
H. SCHNEIDER The Dialog System of the Physics Simulation Program "Particles and Fields"	129

S. BRANDT, P. JANZEN An Interactive Computer Program for the University Teaching of Quantum Mechanics	15.
H. GENZ Visualizing Physical Processes by Computergenerated Movies	17.
F. KAISER A Computer Generated Movie on 3-dimensional Kinetic Gas Theory	3,6.
H.M. STAUDENMAIER The Meaning of Computer Science for Physics Education	195
P. JANZEN Construction and Use of an Interactive Graphics Program for Perspective Output of Functions of Two and Three Variables	2 03
B.A. GOTTWALD KISS - a Chemical Simulation System for Research and Education	215
J.P.E. WEDEKIND The Instructional Use of Computer Simulation in the Teaching of Biology: Three Examples	223
K. AHMAD, G.G. CORBETT Bilingual Terminals: Input and Output in Cyrillic and Roman Scripts	237
K. AHMAD, M. ROGERS Development of Teaching Packages for Undergraduate Students of German	253