

CONTENTS

	Page
N. FIEBIGER: On the Necessity of Supporting Research.....	1
*	
A. BODE: Parallel Computer Architectures for Numerical Simulation	7
R. CALLIES: Design Optimization of High Performance Satellites.....	19
Z. CHEN, K.-H. HOFFMANN: Numerical Simulations of Dynamical Ginzburg-Landau Vortices in Superconductivity	31
F. DURST: High Performance Scientific Computing and its Application in Solving Engineering Problems	39
H. FISCHER, C. TROGER: Computational Fluid Dynamics with FIRE on Massive Parallel Computers	52
W. HUBER, R. HÜTTL, M. SCHNEIDER, C. ZENGER: Distributed Numerical Simulation on Workstation Networks	67
D. KIMBEL: European Developments in High Performance Computing — A Comparison with Developments in Other OECD Countries	83
E. KRAUSE: High-Performance Computing in Fluid Mechanics	99
J. LORENZ, F. DURST, H. RYSSEL: Process Simulation for the Semiconductor Industry	115
G. MÜLLER: Numerical Simulation of Crystal Growth Processes	130
R. PUTZ, H. ENDRES, A. MURAMATSU, W. HANKE: Quantum Monte Carlo Simulations and Weak-Coupling Approximations for the Three-Band Hubbard Model	142
G. SACHS: Dynamic Systems Visualization Applied to Flight Mechanics Problems	157
M. SCHÄFER: Efficient Methods and Parallel Computing in Numerical Fluid Mechanics	173