

Contents

Chapter 1	
Design, Assembly and Integration	1
"Product Templates" A Parametric Approach to Mass Customization.....	3
<i>Jordan J. Cox</i>	
A New Aesthetic Design Workflow - Results from the European Project FIORES.....	16
<i>C. Werner Dankwort and Gerd Podehl</i>	
Feature-Based Assembly for Aeronautics Design	31
<i>Umberto Cugini</i>	
A Modeller for Preliminary Design	47
<i>Jean-Marc Brun</i>	
Geometric Reasoning Tools for Assembly-oriented CAD.....	63
<i>G.E.M. Jared, S.J. Tate, K.G. Swift</i>	
Enhanced multiple-view feature modelling.....	80
<i>Alex Noort and Willem F. Bronsvooort</i>	
Chapter 2	
Interfaces and User Interaction	95
Navigation in Highly Polygon-Populated Ship Environments using the Visibiliy Octree	97
<i>Carlos Saona, Isabel Navazo and Pere Brunet</i>	
An Algorithm for Fast 3D Picking and Snapping using a 3D Input Device and 3D Cursor.....	113
<i>André Stork</i>	

Virtual Prototyping - The Integration of Design and Virtual Reality	128
<i>Antonino Gomes de Sá, Joachim Rix</i>	
The Role of Haptic Devices for an efficient Integration of Design, Simulation and Analysis	151
<i>Monica Bordegoni and Franco De Angelis</i>	
Chapter 3	
Meshing and Surface Analysis	163
A Simple Algorithm for 2D-Mesh Generation by Domain Composition	165
<i>R. Joan-Arinyo, L. Pérez-Vidal and J. Vilaplana-Pastó</i>	
Generation of Solid Multiresolution Models.....	178
<i>Jordi Esteve, Pere Brunet and Alvar Vinacua</i>	
Surface Reconstruction Based on a Descriptive Approach.....	194
<i>A. Bóuras, B. Shariat, E. Perna and S. Foufou</i>	
Differential Properties at Singular Points of Parametric Surfaces.....	211
<i>Yasushi Yamaguchi</i>	
Selective Crypting with Haar-Wavelets.....	222
<i>Alexa Nawotki</i>	
Chapter 4	
Constraints and Knowledge	231
Variational Design in Electrical Engineering - An Extension of Parametric Modeling.....	233
<i>Dieter Roller and Dirk Schäfer</i>	
A Geometric Relaxation Solver for Constraint-Based Models.....	251
<i>Lluís Solano and Pere Brunet</i>	
Steps toward a Relational 3D System.....	269
<i>Manfred Rosendahl</i>	
Index	285