

7th International Conference on System Simulation and Scientific Computing Asia Simulation Conference 2008

**Beijing, China
10-12 October 2008**

Pages 1-519



**IEEE Catalog Number: CFP0858D-PRT
ISBN: 978-1-4244-1786-5**

TABLE OF CONTENTS

An Approach to Service Provisioning of HLA RTI as Web Services	1
<i>W. Zhang, L. Feng, J. Hu, Y. Zha</i>	
A SOA-Based Framework for Dynamic Distributed Composable Simulation.....	7
<i>L. Song, C. Wang, W. Wang</i>	
Agent Based Simulation Framework for Complex Product.....	13
<i>Y. Zhu, J. Wang</i>	
Neural Network Approach to the Flaw Identification in a Conductive Plate with Finite Element Modeling	18
<i>Y. Zhao, L. Chai, Y. Kagawa</i>	
Recognition of Hand Action in Virtual Maintenance Training System	23
<i>S. Pei, Q. Su, P. Liu</i>	
Study on Behavior Simulation for Picking Manipulator in Virtual Environment Based on Binocular Stereo Vision	27
<i>H. Wang, X. Zou, C. Liu, J. Lu, T. Liu</i>	
Dynamic Simulation of Mountain-valley Circulation over Complex Terrain	32
<i>L. Xu, M. Zhang, K. Li, J. Zhang</i>	
Real Time Visualization of Large Terrain in Flight Simulation	36
<i>G. Zhang</i>	
Distributed Ship Steering Control Algorithm Testing System Based on Virtual Reality Technique.....	40
<i>C. Zhang, C. Guo, G. Ye</i>	
Combining Analytical Inverse Kinematics with Example Postures to Generate Virtual Human Whole Body Reaching Postures	45
<i>S. Li, J. Liang, G. Liu, Y. Zhang</i>	
Study of Integrated and Intelligent Model Structure for Mechanism Model of Thermodynamic Equipment	53
<i>Y. Ma, J. Ma, B. Wang, Z. Li</i>	
Research on Mixed Optimization method with Gradient-Based Kriging Approximation Model.....	58
<i>Y. Xuan, W. Zhang, Y. Zhang</i>	
Hybrid Control of Helicopter Main Rotor Concordant Load System.....	64
<i>W. Zhang, C. Yuan, W. Zhang, C. Hou</i>	
A Hybrid Control Allocation Strategy for Aircraft with Multiple Effectors	70
<i>J. Ma, W. Li, P. Li, Z. Zheng</i>	
Reliability Assessment of Avionic Device Based on GO Methodology	76
<i>Z. Yin, X. Mu</i>	
A Meta-Synthesis of Evaluating Battlefield Electromagnetic Environment Effects	79
<i>J. Xu, G. Liu, Z. Yu, L. Wang</i>	

Conceptual Framework of Composable Simulation Using Multilevel Model Specification for Complex Systems.....	84
<i>Y. Zhu, W. Wang, D. Zhou</i>	
Context-Driven Testing Approach for Composability of Simulation Model	89
<i>Y. Zhu, Q. Li, C. Chen</i>	
Hierarchical Empowerment Model Research of the Complex Government Affairs Information System.....	94
<i>H. Li, Z. Jin, X. Ye</i>	
An Agent/CA Model for Military System	98
<i>Y. Chen, Z. Xu, F. Gao, L. Xu</i>	
Formation Control of Multi-agent System Based on Potential Function	101
<i>L. Wang, Z. Chen, Z. Liu, Q. Wang</i>	
An Adaptive Crosstalk-resistant Cosite Interference Canceller Based on the Estimation of the Crosstalk.....	106
<i>X. Yuan, G. Huang</i>	
Modeling and Simulation for Electro-hydraulic Systems Based on Multi-software Collaboration.....	110
<i>C. Ma, F. Li, L. Hao, Z. Zhang</i>	
Design of an Adaptive Shock Absorber of Landing Gear and Preliminary Analysis on Taxiing Performance	114
<i>S. Zhu, M. Tong, J. Xu</i>	
An Improved Wilkinson Algorithm for Solving Linear Equations	119
<i>Z. Zheng, G. Huang, X. Yang</i>	
A New Algorithm of Localization of Combined Subsets of Multistatic Sonar System.....	123
<i>Y. Sun, J. Zhao, Y. Zhang, X. Zhang</i>	
Deploying Process Modelling Effectively in Business: A Review of Past and Current Trends	127
<i>S.J. Haines</i>	
CFD Simulation of the Flow Pattern and Separation Performance in Swirl Tubes	131
<i>J. Zhang, Y. Jin</i>	
Stress Analytic Computation and Minimal Permission Thickness of Superposition Throttle Slices of Shock Absorber	136
<i>A.C. Zhou, B.Y. Liu</i>	
Thermodynamic Simulation of Exhaust Gas Recirculation Coolers Used on Diesels Based on Finite Element Method	141
<i>Y. Wang, X. Tang, H. He</i>	
Design of CCD Control System based on dsPIC Digital Signal Controller.....	146
<i>X. Sun, B. Zhang, C. Chen</i>	
The Construction of Miniaturization Direct-current Servo System	150
<i>F. Li, Q. Li, J. Hao</i>	
An Integral Explanation to the S-shape Growth Figure in Network Effect Product Market	154
<i>Z. Geng, C. Yu</i>	
Characteristic Simulation of Telescopic Shock Absorber	159
<i>A.C. Zhou, B.Y. Liu, C.Y. Cai</i>	

Performance Comparison of Control Allocation for Aircraft with Control Effectiveness Uncertainties	164
<i>J. Ma, P. Li, W. Li, Z. Zheng</i>	
Infrared Image Denoising Method Based on Improved C_HMT Model	170
<i>M. Cheng, X. Mei, J. Lin, L. Wang</i>	
Adaptive Controller Design of NCS Based on Deterministic Network & Calculus Theory	175
<i>S. Ni, Z. Wang</i>	
Expansion of OPNET Modeler's SIP Model for Performance Evaluation of Hierarchical Call Routing in NGN	179
<i>H. Arianfar, Z. Ayatollahi</i>	
The Design and Implement of GPS Software Simulation Platform	186
<i>C. Li, Y. Qian, M. Lu, Z. Feng</i>	
A Service-Oriented Air Combat Simulation System	192
<i>B. Yan, S. Zhang, J. Sun</i>	
Study on Dynamic Modeling and Simplification of 6 Degree-of-Freedom Motion Simulator	200
<i>Y. Wan</i>	
Model and Analysis for Guide Function of Fire Control Simulation System Based on Cubic Spline Interpolation Function	207
<i>C. He, G. Dong, D. Han</i>	
Research on Pervasive Simulation Based on Grid and Pervasive Computing Technology	211
<i>N. Li, Z. Xiao, L. Xu, X. Peng</i>	
Dynamic Modeling of Vortex Levitation	218
<i>X. Li, K. Kawashima, T. Kagawa</i>	
Real-time Wave Simulation Based on Wave Spectrum Used in Marine Simulator	225
<i>Y. Yin, H. Ren, X. Liu</i>	
The Design and Implement of Parallel Simulation Algorithm of Dynamic Route Solution for Traffic Network	230
<i>L. Gao, Z. Juan, P. Jing</i>	
The Simulation Study of Sensorless Control for Induction Motor Drives Based on MRAS	235
<i>Z. Li, S. Cheng, K. Cai</i>	
Ship Decoupling-Fusing Positioning Algorithm Based on Velocity Direction Constraint	240
<i>W. Xu, J. Lu</i>	
Numerical Simulation on Flow Field of Pre-mixed Abrasive Water Jet Nozzle	247
<i>B. Nie, J. Meng, Z. Ji</i>	
Research on Modeling and Simulation of Semi-Autonomous Orbit Determination for Satellite Navigation Constellation	252
<i>J. Zhu, Y. Wen, Z. Chen, Y. Liao, W. Pan</i>	
On the Capability Structure of Professional Simulationists for Simulation Science and Technology	258
<i>X. Huang, J. Wang</i>	
Real-time Research of Mine Industrial Ethernet Network Based on Massive Data Flow Video Load	263
<i>Q. Lu, Z. Zhu, G.Z. Chen, G.B. Zhou, C.F. Shen</i>	
Research on Architecture of Distributed Collaborative Sea Environment Simulation Platform	269
<i>Y. You, F. Kang, J. Wang</i>	

A Composable Modeling Approach of HLA Simulation Systems Based on Petri Nets	274
<i>Y. Peng, M. Yang, J.X. Gong, K.D. Huang</i>	
Research on Web-based Real-time Statistical Method in Combat Simulation.....	281
<i>B. Chen, Q. He, R. Ju, K. Huang</i>	
Execution Management of the BOM-Based Simulation System	287
<i>X. Liu, B. Chen, K. Zhang, K. Huang</i>	
Research on Fault Diagnosis of Hydraulic System in Missile Armament Simulation System Based on HLA.....	291
<i>X. Li, Z. Zhang, Z. Zhou, X. Huang</i>	
Model Retrieval Based on Flattened-Surface shape comparing in 3D Object Databases.....	295
<i>G. Yin, H. Chen, J. Zhang, Y. Cai</i>	
Equalizer-based Parallel Rendering Framework for Multi-Projector Tiled Display System	299
<i>H. Chang, X. Lei, S. Dai</i>	
The Research on A PC-Based Simulation of Diesel Engine Propulsion System	303
<i>X. Wang, J. Sun, C. Guo</i>	
A Mumford-Shah Level-Set Approach for Skin Segmentation Using a New Color Space.....	307
<i>Y. Zhao, S. Dai, X. Xi</i>	
Research and Simulation on Uprising Dynamics of a Special Overhead Crane System	311
<i>X. Guo, X. Yao, Y. Feng, Y. Yang</i>	
Research on Flexibly Extensible Simulation System Framework.....	316
<i>J. Gong, J. Huang, J. Hao, K. Huang</i>	
Simulation Study of Algorithms for Aircraft Trajectory Prediction Based on ADS-B Technology	322
<i>L. Xi, Z. Jun, Z. Yanbo, L. Wei</i>	
Trajectory Sensitivity Analysis Based on Second-order Sensitivity for Hydroelectric Systems Dynamic Simulation	328
<i>Z. Yuan, X. Li, X. Hu, Q. Ni</i>	
Ship Trial Manoeuvre Based on Ship Movement Simulation	334
<i>Y. Zhuo, X. Fang</i>	
HLA-Based Distributed Simulation Model for Multimodal Operation System on Container Terminals	338
<i>P. Gao, C. Jin, G. Wang</i>	
Study on Effective State Monitoring of Analog Circuit Based on HMM	344
<i>L. Xu, B. Long, H. Wang, J. Jiang</i>	
Mapping from BOM Conceptual Model Definition to PDES Models for Enhancing Interoperability	349
<i>B. Hou, Y. Yao, B. Wang</i>	
Effect of the Detector Parameters on the Sensitivity of Contactless Conductivity Detector for Microchip Electrophoresis	355
<i>H. Zhang, X. Liu, H. Li, X. Wang</i>	
The Simulator Operation Instruction System for Simulation Practice of Power Plant Operation	359
<i>Y. Ma, J. Ma, J. Li, P. Ran</i>	
Discussion On Simulation Application Theory.....	363
<i>R. Fan, J. Wang, H. Li</i>	

Discussion on Credibility Theory of Simulation Application	368
<i>Y. Tan, J. Wang, W. Zhang</i>	
An Exploration on the Simulation System Theory of the Discipline of Simulation Science and Technology	375
<i>X. Xu, J. Wang, Y. Ma</i>	
Discussion on the Preknowledge of Simulation Science and Technology	380
<i>N. Yang, J. Wang</i>	
Modeling Gene Regulatory Networks by Incremental Evolution and System Decomposition	385
<i>W. Lee, Y. Hsiao</i>	
Traffic Simulator on Multi-display Configuration	392
<i>S. Nakamura, H. Nito, T. Nakazato, S. Tanimoto, H. Yoshida, Y. Miyaniishi</i>	
Real-time Simulation in Java: A Feasibility Study	396
<i>S.N. Hetu, G. Tan</i>	
Shipping Transfer System: Modeling, Simulation and Optimization	400
<i>R. Hu, X. Li, M. Li</i>	
Expanding the V-Modell XT for Verification and Validation of Modelling and Simulation Applications	404
<i>Z. Wang, A. Lehmann</i>	
Risk Prediction of Project Scheduling Based Cloud Model	411
<i>D. Kong, L. Liu, R. Miao, L. Yin</i>	
Study on At-Grade Intersection Spacing of Highways Using Microscopic Traffic Simulation	416
<i>G. Zhang, J. Lu, W. Wang, Q. Xiang</i>	
Simulation of a MAGLEV Train with Periodic Guideway Deflections	421
<i>G. Shu, R. Meisinger, G. Shen</i>	
The Extra-resonances of Metamaterials in Terahertz	426
<i>Y. Xie, H. Zhang, Q. Wen, Y. Liu, Y. Li, J. Guan</i>	
Active Flutter Control of Transonic Flapped Wing Based on CFD/CSD Coupling	430
<i>Z. Zhang, M. Xu, S. Chen</i>	
Research in Simulated Evaluation Index System of Armored Corps Integrated Support System Efficiency	436
<i>C. Yuan, W. Li, X. Wang</i>	
ISDGen: An Automated Simulation Data Generation Tool for Object-oriented Information Systems	439
<i>Y. Zheng, J. Xue, Y. Zhu</i>	
Shape Matching Based Real-Coded Genetic Algorithm for Grasping Construction	446
<i>B. Wang, S. Dai</i>	
Finite Element Analysis for Local Stability of Thin-Walled Box Section	451
<i>A. Ji, Y. Liu, L. Shen, Q. Huang</i>	
Simulation Model for Compressible Fluid Passing through a Pressure Control Valve	456
<i>M. Urata, L. Xin, K. Kawashima, T. Kagawa</i>	
Distributed Simulation of Complex Systems by Use of an HLA-Transparent Simulation Language	460
<i>A. D'Ambrogio, D. Gianni, G. Iazeolla, A. Pieroni</i>	

The Research of Tool Integration Technology for Complex Products' Collaborative Simulation Platform.....	468
<i>T.Y. Lin, B.H. Li, X.D. Chai, B.C. Hou</i>	
Modeling and Simulation the Application of Spread Spectrum CDMA in Satellite Formation	473
<i>J. Tan, X. Gou, W. Jin, Q. Wu</i>	
Key Technologies of Crane Training Simulator	478
<i>M. Zhao, Y. Jin, Y. Yin, X. Zhang</i>	
The Vehicle Abstraction Layer: A Simplified Approach to Multi-agent, Autonomous UAV Systems Development.....	483
<i>C.D. Fulford, N.H.M. Li, E.J.P. Earon, R. Huq, C.A. Rabbath</i>	
A Framework for High-fidelity Aerostructural Optimization of Aircraft Configurations	488
<i>C.A. Mader, G.K.W. Kenway, J.R.R.A. Martins</i>	
A Cooperative UAV/UGV Platform for Wildfire Detection and Fighting	494
<i>C. Phan, H.H.T. Liu</i>	
Simulation for Control Performance Validation–A Case Study	499
<i>X. Chen, M. Salem, X. Chen</i>	
Modeling and Simulation of Flexible UAVs with Large Aspect Ratio	504
<i>S. Haghigat, H.H.T. Liu, J.R.R.A. Martins</i>	
Numerical Study and Design of the Compressor's Crankshaft.....	510
<i>S. Chen, K. Cho</i>	
Instructor Station for Apros Based Loviisa NPP Training Simulator	514
<i>J. Naveri, P. Laakso</i>	
Validation of Fluid-structure Interaction Simulation Environment in Analysis of Large-break Loss of Coolant Accident	520
<i>T. Brandt, V. Lestinen, T. Toppila, J. Kahkonen, A. Timperi, T. Pattikangas, I. Karppinen</i>	
Advanced Graph Based Industrial Process Modeling	528
<i>K. Juslin</i>	
The Study of Wargames based on HLA	536
<i>C. Peng, B. Liu, K. Huang</i>	
Modeling and Simulation of an Aeronautical Subnetwork Based on Universal Access Transceiver	541
<i>F. Huang, J. Zhang, Y. Zhu, W. Liu</i>	
A Hardware-In-the-Loop Simulation Platform of an Imaging ATR Missile	545
<i>X. Yang, J. Wang, H. Luo</i>	
Research on Design and Implementation of a Web-Based Simulation Meta-synthesis System	551
<i>B. Liu, J. Liu, Q. Li, G. Hu</i>	
A Real-time Volume Rendering of Left Ventricular Activity in Human Heart	555
<i>N. Mochizuki, M. Makino</i>	
Application of DGPS Simulator in HIL Simulation of Aerocraft	562
<i>L. Wang, C. Wu, F. Kang</i>	

Modelling Genetic Regulatory Networks	565
<i>L. Yu, Z. Su</i>	
Modeling and Comparison on Protection Schemes of a Future Shipboard Power System	570
<i>Q. Wang, W. Ma</i>	
Parallel Simulation over a PC Cluster on Navigation System's Service Performance	576
<i>N. Su, Z. Yang, Q. Li, W. Wang</i>	
Modeling and Visualization Application of Naval Battlefield Situation Quantitative Analysis and Evaluation	582
<i>X. Niu, L. Yang</i>	
Optimal Method for Interfering with Infrared Homing Missile by Airborne Infrared Smoke	588
<i>Z. Tong, Y. Lu, C. Li, P. Liu</i>	
A Research for Warship Virtual Damage Control Command Training System.....	593
<i>K. Ren, J. Pu, Y. Li</i>	
Research on the Controlling Methods for Rudder Simulator Based on PXI.....	598
<i>X. Shi, H. Lin, J. Liao</i>	
A Combat Complex System Based on Artificial Life	601
<i>Y. Cui, D. Pi</i>	
The Numerical Analysis About Depth Of The Defense Cover Attacked by MOP	608
<i>L. Zeng, W. Wang, J. Zhu</i>	
A Relevance Vector Regression based Metamodeling Approach for Complex System Analysis	612
<i>B. Wu, L. Chen, W. Zhang, J. Liang</i>	
Analysis of Time Registration Algorithms in The Multi-Sensor Data Fusion System	620
<i>Y. Peng, Y. Bi, H. Jin</i>	
Sliding Mode Variable Structure Control Study of Ram-air Servo System	625
<i>W. Quan, X. Yao, F. Lin</i>	
Modeling and Simulation of Recon-sat's Target Detection and Guidance	630
<i>Y. Xu, H. Shen, Z. Liu</i>	
Numerical Simulation of Transient Thermal Response of Composite Material Barrel During Gun Firing	633
<i>L. Chen, L. Qian, Y. Xu</i>	
Adaptive Conditional Integral Sliding Mode Control for Fault Tolerant Flight Control System	638
<i>P. Li, J. Ma, W. Li, Z. Zheng</i>	
Analysis and Simulation on the Intercepting Performance of Exoatmospheric Kill Vehicle	643
<i>L. Wang, Z. Jing, Y. Yang, T. Gao</i>	
Intelligent adaptive Control and Simulation for a Spin Missile	647
<i>X. Xie, Z. Liu, Z. Luo</i>	
SAR Interfering Based on Fast Simulation of SAR Raw Signal	652
<i>M. Yu, Z. Zhang, G. Li, J. Li, P. Gao</i>	
Air Combat Effectiveness Assessment of Military Aircraft Using a Fuzzy AHP and TOPSIS Methodology	655
<i>J. Wang, K. Fan, Y. Su, S. Liang, W. Wang</i>	

Dynamic Simulation of Alveolar Bone Remodeling Based on Viscoelastic Constitutive Model of Periodontal Ligament	663
Z. Wei, W. Tang, B. Yan, B. Yang	
Coupled Torsional and Axial Nonlinear Vibration Model of the Crankshaft with a Propeller.....	668
S. Zhang, Q. Zhang	
Numerical Simulation of Gap Flow of Sector Recess Multi-pad Hydrostatic Thrust Bearing.....	675
X. Yu, Y. Zhang, J. Shao, X. Yu, Y. Ni, Z. Shi, W. Guo, D. Zheng	
SoC-Level Fault Injection Methodology in SystemC Design Platform	680
Y. Chen, Y. Wang, J. Peng	
Modeling and Simulation of Ultrasonic Motor Driving Jet-pipe Servo Valve System.....	688
L. Nie, X. Yao, Q. Li	
Mathematical Modeling and Simulation of Ultra Large Container Ship Motion	693
Z. Shen, C. Guo, Y. Yan	
Simulation Study into Dynamic Corporate Governance Based on Complex Adaptive System	697
R. Lv, H. Jing	
A Synchronous Startup Schedule Strategy for Distributed Simulation System.....	703
N. Zhang, Z. Shen, B. Yu	
Kinematic Simulation Analysis of Tripod Sliding Universal Joints Based on ADAM.....	708
D. Chang, D. Song, F. Yang	
Dynamic Simulation of the Tripod Sliding Universal Joint Based on Virtual Prototype	711
F. Yang, D. Chang, X. Wang	
Numerical Simulation of Displacement Field of Solidification Process for Investment Casting.....	715
Y. Dong, K. Bu, D. Zhang	
Computation Model of Electric Field for Aircraft Penetrating Clouds	721
X. Da, L. Hong, H. Shen	
A Data Enabled Operation-Based Simulation for Automotive Assembly	726
J. Wang, J. Yu, S. Li, G. Xiao, Q. Chang, S. Biller	
Modeling and Simulation for Earth-Pressure-Balance Simulated System of Shield Machine.....	732
X. Li, H. Chen	
Numerical Simulation of Low Pressure Die-Cast of Magnesium Alloy Wheel.....	736
F. Ying, H. Tang, T. Peng	
Modified AUSMPW+ Scheme and its Application.....	740
W. Yao, M. Xu	
Effect of Feedback Variables on Active Fuzzy Vibration Control of Micro-vibration Isolation Platform.....	744
J. Hou, H. Bai, S. Tao	
An Improved Federated Filtering Method for Integrated Navigation System of Autonomous Underwater Vehicle	748
S. Duan, F. Kang, Y. Fu, Y. Wang	
Numerical Investigation of Transient Lateral Jet Interaction in a Supersonic Interceptor Missile.....	752
X. Zhang, W. Yao, M. Xu	

Numerical Simulation of Mechanical Parameter for Hot Continuous Rolling Process	757
<i>L. Yang, J. Hu, L. Ning, Y. Liu</i>	
A Servo System Control Research Based on Fuzzy CMAC	761
<i>W. Wang, Z. Zhang</i>	
Fuzzy Sliding Mode Control Based on Optimal Fuzzy Reasoning and Its Application on Simulator Turntable	765
<i>Y. Wu, W. Le, Y. Liu</i>	
Scheduling Model and Discrete Particle Swarm Optimization Algorithm for Roller Annealing	770
<i>J. Song, J. Tang</i>	
Algorithm of Battlefield Situation Assessment Based on Bayesian Network and Rough Set Theory	776
<i>G. Meng, G. Gong</i>	
Surface Reconstruction from 3D Scattered Points with Normals Using Both Delaunay Tetrahedralization and Implicit Function	780
<i>T. Ito, Y. Kanda</i>	
Parallel Collision Detection Algorithm Based on Mixed BVH and OpenMP	786
<i>W. Zhao, R. Tan, W. Li</i>	
A Study of Simulation and Evaluation Experimental Method of C4ISR System	793
<i>S. Mao, G. Bao, Z. Ju</i>	
The Research and Practice with Talents Cultivation of System Simulation Discipline	797
<i>X. Hua, F. Kang, Q. Song, J. Wang</i>	
Elite Particle Swarm Optimization with Mutation	800
<i>W. Jiao, G. Liu, D. Liu</i>	
A Hybrid Carrier Tracking Algorithm Based on FQFD and EKF	804
<i>S. Wang, D. Luo, Z. Liu, J. Zhang, X. Zhao</i>	
Dynamic Characteristic Optimization for Superheater System Model Based on Evolutionary Computation	809
<i>J. Ma, Y. Ma, B. Wang</i>	
Verification and Validation of Fuzzy Rules-Based Human Behavior Models	813
<i>F. Liu, M. Yang, P. Shi</i>	
Self-Adaptive Differential Evolution and Its Application to Job-Shop Scheduling	820
<i>W. Wang, Z. Xiang, X. Xu</i>	
Study on Kalman Filtering for Noise Filtration in INS	827
<i>X. Zhang, C. Kang</i>	
A Research on Sifting and Application of Rules in Combat Simulation	831
<i>X. Liu, X. Gao, H. Zhu</i>	
Predicted Thresholds of Dynamic Stability against Backward Balance Loss under Slip and Nonslip Bipedal Walking Conditions	836
<i>F. Yang, F.C. Anderson, Y. Pai</i>	
Thermal-hydraulic Modeling and Simulation of High Power Hydro-motor	841
<i>Y. Li, X. Su, H. Xu, D. Li</i>	
Visual Topology Analysis for Power Network Simulation	845
<i>H. Fan, X. Li, B. Chen</i>	
Research on Federate Compliance Test Method	851
<i>R. Zhong, J. Huang, B. Chen, Y. Peng</i>	

Network-Based Simulation and Modeling for Super-critical Boiler Air Flue System	857
<i>K. Cai, Q. Chen, J. Wang</i>	
Research and Simulation on Decision-making Trigger in UCAV Autonomous Close-in Combat.....	862
<i>F. Kong, Q. Ding, J. He, J. Liu</i>	
Numerical Simulation and Visualization Experiment of Solid Particle Motion Affected by Parameters of Flow in Tapered Drum Rotating Type Separator	867
<i>T. Zhu, T. Nozaki, Y.H. Xie, J. Han, J. Jiang</i>	
Simulation and Analysis of an Electric Vehicle Driven by Two Rear Motors	872
<i>Y. Chen, D. Zhang, G. Li</i>	
Semantic Modeling in Satellite Network Simulation.....	877
<i>L. Qi, X. Zhang, L. Zhi</i>	
Using LEO-GEO Cross-Link to Enhance LEO Satellite Communication Coverage Area	882
<i>K.A. Fouad, X. Xu</i>	
Research on Validation Method for Complex Simulation Systems	888
<i>P. Shi, F. Liu, M. Yang</i>	
Post-buckling Simulation of an Integral Aluminum Fuselage Panel Subjected to Axial Compression Load	893
<i>W. Sun, M. Tong, L. Guo, D. Dong</i>	
Research on the V&V Technology of the Conceptual Model Described by UML.....	898
<i>M. Zhang, H. Sang, J. Tang, L. Ye</i>	
Simulating and analysis for Attitude angles of RRP	903
<i>C. Kang, Z. Su</i>	
Design and Simulation Analysis of a New-style Constant Velocity Universal Joint.....	906
<i>D. Chang, D. Song, F. Yang</i>	
Analysis of Neighborhood Radii Influence on Segregation	910
<i>M. Pan, H. Tao, C. Deng</i>	
The Study on Numerical Simulation of Non-contact Explosion Impact Response.....	914
<i>J. Jin, Y. Chen, X. Wu</i>	
Research on Simulation of Searching Radars' Intelligence Detection in Complicated Electromagnetic Environment	918
<i>X. Qu, Y. Sun, Z. Xiong, L. Yu, X. Li</i>	
A Maneuvering Target Tracking Algorithm Based on UKF-Singer	924
<i>Y. Peng, H. Jin</i>	
Research on Applying JMASE to Distributed Simulation Systems.....	927
<i>C. Wang, Q. Wang, G. Guo, G. Li, K. Huang</i>	
Visual reserves computation and analysis with Cokriging method in 3D Space	931
<i>X. Zhang, K. Xiao</i>	
A Parallel Controller Design and Simulation for Industry Robot	936
<i>D. Tian, Y. Wu, Y. Liu</i>	
Research and Simulation on Route Planning Algorithm for Anti-ship Missile	940
<i>X. Guo, Z. Fan, P. Ma</i>	
Signal Simulation and positioning mechanisms for Single Antenna GPS Receiver used in Fuse.....	947
<i>H. Song, H. Yuan, J. Ma</i>	

An Approach for Constructing Field Tactical Roadmap	953
<i>W. Zhang, Z. Li, W. Li, Z. Li, J. Xue</i>	
Air Formation to Ground Attack-defends Uncertain Decision Making.....	958
<i>L. Zhang, Y. Guo</i>	
Discussion of Theory Framework for Simulation Science and Technology Discipline	964
<i>X. Yang, J. Wang</i>	
Experimental and Numerical Study of Flow Behavior in Electromagnetic Valve	970
<i>Y. Li, C. Wu</i>	
Research on the Architecture of Modeling Theory in SS&T	974
<i>H. Xu, J. Wang</i>	
Theory of Simulation Model and Research Object.....	979
<i>L. Sun, J. Wang, X. Yang, A. Han</i>	
The Ideas of Course and Text Book Architecture for Simulation Science and Technology.....	984
<i>M. Zhu, J. Wang, X. Yang, L. Pan</i>	
Methodology of Simulation Science and Technology	989
<i>M. Sun, J. Wang</i>	
Supply Security System Simulation for the Coordination Mechanism of Coal Property-Rights and Product Markets	995
<i>Y. Weng, L. Zhang, X. Liu</i>	
Simulation of Electric Circuits Containing High-speed Switches	1001
<i>R.M. Howe</i>	
Experimental Modeling of Semi-physical Simulation Platform for Tracking Control of Flexible Multibody Systems.....	1007
<i>G. Zhang, Y. Wang, Y. Zhang</i>	
Dynamic Analysis of a Hypocycloid Mechanism with Planetary Gears for Internal Combustion Engine	1012
<i>Y. Xue, Q. Du, F. Zhao, J. Zhu</i>	
Thermomechanical Compliant Actuator Design Using Meshless Topology Optimization.....	1018
<i>Y. Du, Z. Fang, Z. Wu, Q. Tian</i>	
Adaptive Inverse Control Application on Thermal System Based on Least Squares Support Vector Machine	1026
<i>S. Shen, G. Wang</i>	
Research on Reducing EMI and Output Voltage Ripple of Buck Converter Based on a Novel Chaos Control	1031
<i>Z. Wu, L. Wang</i>	
Real-time Simulation of Tissue Cutting Based on Improved Mass-Spring Model.....	1035
<i>J. Hu, Z. Yuan, D. Zhang</i>	
Virtual Terrain in a Parametric 3D Based Bridge Modeling System.....	1041
<i>F. Wang, X. Cheng, G. Shi</i>	
A Study on Effects of Mixing Different Gases in Pipes.....	1046
<i>M. Arakawa, T. Kagawa, M. Takeuchi, T. Rokuka, T. Someya</i>	

Research on Multi-type & Small Batch Oriented Process Quality Control System under Network Environment	1050
<i>X. Jiang, K. Zhao, L. Tang, W. Wang</i>	
Unified System Simulation of Relay Protection and Its Settings System for Hydropower Plants	1057
<i>N. Shi, X. Li</i>	
Research on High-Precision Geometric Simulation for Turning Machining Based on Tool Driven.....	1063
<i>Q. Gao, L. Zhang, T. Xiao</i>	
Dynamic Modeling and Simulation of a Flexible Satellite	1068
<i>S. Bai, X. Huang, Y. Liu</i>	
Dynamics Simulation on the Nonsinusoidal Oscillation System for the Mold in Continuous Casting.....	1073
<i>L. Zhang, X. Li, Y. Yao, L. Yang</i>	
Curl Forecasting for Paper Quality in Papermaking Industry.....	1079
<i>F. Wang, S. Sanguansintkul, C. Lursinsap</i>	
Tracing Objects Owned by Anonymous Entities	1085
<i>S. Tamura, S. Taniguchi, T. Yanase</i>	
Numerical Simulation in Combustion Space of an Oil Fired Float Glass Furnace	1091
<i>S. Mei, J. Xie, M. Jin, D. Han</i>	
Sinusoid Signal Enhancement in Colored Noise Based on Least Square Kurtosis IIR Adaptive Notch Filter	1095
<i>H. Liang, C. Yang</i>	
Continuous Sound Wave Doppler SODAR for Short Range Wind Velocity Detection.....	1099
<i>L. Chai, T. Fukuda, K. Yamazaki, Y. Kagawa</i>	
On a Pathological Mathematical Model of Boiler-Turbine-Generator Unit.....	1104
<i>Z. Han, C. Zhou, D. Li</i>	
Analysis of Laminar Flow Meter with Flute-Type Cross Section Laminar Elements	1110
<i>R. Nishimura, K. Kawashima, T. Kagawa</i>	
Networked Manufacturing-based Supply Chain Operation Model and Contract Research	1115
<i>L. Tang, C. Shu, J. Hou, S. Liang, W. Wang</i>	
Simulation of FT-ICR Mass Spectra with a Special-purpose Computer for Many-particle Systems.....	1121
<i>M. Fujiwara</i>	
Neural Network Model for Automatic Segmentation of Brain MRI	1125
<i>K.J. Shanthi, M.S. Kumar, C. Kesavadas</i>	
Virtual Simulation of the Job Shop Scheduling System Based on Delmia/QUEST	1129
<i>C. Wang, C. Qiu</i>	
Real-time Rendering of Ocean in Marine Simulator	1133
<i>H. Ren, Y. Jin, L. Chen</i>	
A Vector-based Atomic Broadcast Protocol for Deferred Updates in Replicated Distributed Databases	1137
<i>X. Xu, J. Wang, L. Pan</i>	
Development of the Real Time Visualization System for PC-Cluster by 2D Viewer using Common Space.....	1142
<i>O. Ohta, T. Matsuzawa</i>	

Realization and Simulation of Rocket Multiple Ignition System Based on Fuzzy Control	
Air-pasty	1147
<i>S. Zhou, Y. Zheng, Y. Ju, C. Zhou, J. Zhou</i>	
Rule Execution in a Service-Oriented Architecture for Distributed Simulation on the Grid	1151
<i>Y. Wang, S.J. Turner</i>	
Numerical Simulation of heating & Cooling Air Conditioning System of Solar Aided	
Ground Source Heat Pump System with Soil Storage	1159
<i>F. Wang, M. Zheng, Z. Li</i>	
Feature-ontology Based Semantic Specification Model for Simulation Component.....	1163
<i>X. Chen, H. Ma, W.G. Wang</i>	
Grouting Stratum Identification Based on Fuzzy SVM.....	1168
<i>F. Li, H. Liu, Z. Hou</i>	
Optimal Sequence Planning for Automobile Gauge Panel Image Inspection.....	1173
<i>S. Liu, M. Liu, D. Wang</i>	
Modeling and Scheduling for Semiconductor Wafer Fabrication Systems	1177
<i>Z. Shao, Y. Chen</i>	
Simulation Analysis on Thermoelectric Generator System Performance.....	1183
<i>H. Xiao, X. Gou, C. Yang</i>	
Numerical Analysis on Stress in Bending Casing of Thermal Production Horizontal Well.....	1188
<i>X. Lv, J. Liu, Q. Xue, X. He, G. Pei</i>	
Investor Expectation,Risk Attitude and The Effort on Price	1192
<i>L. Yu, S. Zeng</i>	
Optimization Design for the Two-Dimensional Contour of the Ramjet Engine Inlet	1197
<i>X. Wang, G. Jiang, C. Zhou</i>	
SNPID Adaptive Control Based on WNN Nonlinear Identification for Ship Fin Stabilizer	1201
<i>H. Li, C. Guo, X. Li</i>	
Real-time Simulation of Meadow.....	1205
<i>C. Li, X. Guo, S. Lu, W. Wen</i>	
Research on Variable Structure Control Law of Advanced Aircraft	1208
<i>X. Kong, M. Yang, Y. Lu, P. Shi</i>	
Calculation of the Frequency-shifted Signal Parameter Based on the Polynomial Phase	
Model.....	1214
<i>Y. Tang, Y. Ma, Z. Cai</i>	
Dynamics Simulation of Deployment of Solar Panels on Oblique Spacecraft	1219
<i>Z. Bai, Y. Zhao, H. Tian</i>	
Classification of Hazard Scenario and SDG Qualitative Identification Method	1223
<i>W. Zhang, C. Wu, Y. Xa, Y. Na</i>	
C2 Decision Support System Based on Symbiotic Simulation.....	1228
<i>Y. Zhou, K. Huang, D. Hu</i>	
Study of Multiple Air Vehicles and Multiple-Mission Route Planning in Virtual Battlefield	1232
<i>X. Shi, Z. Hua</i>	
Simulation of Stagnation-Point Flow and Analysis of Nonzero Vorticity Region	1236
<i>V.K. Sin, T.Y. Tong</i>	
Study on Simulation System of Digital Mine Based on GIS	1240
<i>J. Zhang, G. Sun, Z. Liu</i>	

Simulation Study of a Two-Stroke Single Piston Hydraulic Free Piston Engine	1244
<i>S. Yuan, W. Wu</i>	
Rule on Size of Subdivision in Radar Cross Section Simulation.....	1250
<i>S. Zhou, W. Zhang, Y. Gong</i>	
Improved Model Reference Adaptive Control for Load Simulator.....	1254
<i>J. Fan, Z. Zheng</i>	
Simple-VLIW: A Fundamental VLIW Architectural Simulation Platform.....	1258
<i>P. Wang, J. Yang, B. Wang</i>	
New Preconditioner for Augmented Systems	1267
<i>J. Zhao, G. Zhang, P. Hou, Y. Zhang</i>	
A Rectifying and Refining Algorithm of Vascular Mesh in 3D Model.....	1269
<i>J. Gan, P. Dai, Q. Peng, J.X. Chen, T. Zhang, Z. Wang</i>	
Contrast Analysis of Uniformity of Simulation Signal Based on Sequence of Fuzzy Numbers.....	1272
<i>W. Hu, B. Yuan</i>	
Three-dimensional Simulation and Experiment for Turbulent Combustion System in a High-speed Direct-Injection Diesel Engine	1276
<i>Y. Liu, Y. Zhang, Q. Xiong</i>	
Air-pasty Propellant Pressure Drop and Heat Transfer through Round Pipe.....	1282
<i>J. Zhang, Y. Ju, S. Zhou, C. Zhou</i>	
Research on Rules of Aggregation and Disaggregation for Aircraft Entity Models in Air Force Combat Simulation.....	1286
<i>M. Li, C. Bi, X. Liu, D. Niu</i>	
Research on Reliability of Modeling & Simulation Application	1291
<i>L. Zheng, X. Liu</i>	
Real-time Simulation System of Satellite Navigation Observation	1298
<i>G. Fan, W. Wang, X. Xi</i>	
Simulation-based Optimization and Its Application in Multi-echelon Network Stochastic Inventory System.....	1302
<i>J. Gao, D. Wang</i>	
Several Key Techniques for Civil Helicopter Crashworthiness Safety Design and Simulation	1308
<i>Y. Pei, B. Song</i>	
Numerical Simulation of Cavitation Bubble Dynamics Based on Different Frame Rayleigh-Plesset Equation	1312
<i>H. Tian, C. Yang, Z. Liao</i>	
Qualitative evaluation of Material Supply Chain Performance.....	1317
<i>A. Han</i>	
Research on the Modeling and Simulation of the Four-stroke Engine and it's Control System	1321
<i>Y. Zhang, J. Sun, C. Guo</i>	
Numerical Simulation and Analysis for Metal Cutting Processes Based on FEM and SPH	1325
<i>C. Su, Y. Zhang, J. Hou, W. Wang</i>	
Research on Database Technologies of Synthetic Natural Environment	1329
<i>J. Wang, D. Dong, X. Wang</i>	

Research on Supply Chain Cost Optimization Model of Customized Complex Products and Simulation.....	1334
<i>J. Ge, Y. Huang, Y. Xu, G. Gao</i>	
Analysis on the Parameters of Adhesively Bonding Patch Repairing Cracked Sandwich Face Panel	1340
<i>Y. Wang, M. Tong, S. Zhu</i>	
Study on Virtual Prototyping Testing Platform for Flight Control Computer System of Civil Aircraft	1345
<i>X. Sun, Z. Chen, X. Qin</i>	
Research on Design and Realization of Steering Flight Visual Simulation System.....	1350
<i>J. Wu, X. Wu, Y. Zhou</i>	
Behavior Simulation on Securities Equilibrium Price and Volume with Heterogeneity	1354
<i>C. Zheng, Y. Chen</i>	
Simulation of Three-motor Synchronous Control System Based on BP Neural Network.....	1358
<i>L. Zhao, X. Liu, C. Chen, G. Liu, L. Cheng</i>	
An Initial Position Correction and Model Instance Selection Method for AAM Based Face Alignment.....	1364
<i>X. Fan, Q. Peng, J.X. Chen</i>	
Modeling and Optimizing of Elevator Group Control System with Destination Floor Guidance	1370
<i>J. Tai, S. Yang, C. Shao</i>	
Research on the Structure of an Equipment Assistant Decision Support System Based on Multi-Agent Technology	1377
<i>X. Zhao, G. Chen</i>	
The Realization of Distributed Structure of Simulation System for Joint Operation of Multiple Power-generating Approaches in Marine Power Station Based on CAN Bus	1380
<i>Y. Xia, F. Wang</i>	
System Simulation of 3-phase PWM Rectifier Based on Novel Voltage Space Vector	1385
<i>K. Wei, G. Zhang, S. Wang</i>	
Implementation of IEEE802.1x in OPNET	1390
<i>K. Yang, J. Ma</i>	
DC-WIP - A New Release Rule of Multi-Orders for Semiconductor Manufacturing Lines	1395
<i>R. Sun, Z. Wang</i>	
Study on Antenna Beam Tilting for Flat SOTM on Vehicle	1400
<i>H. Xu, M. Yao, Z. Lin</i>	
Study on Basic Principles of Tri-axial Stabilization for Flat SOTM on Vehicle	1404
<i>H. Xu, M. Yao, X. Shen</i>	
Simulation of PID Neural Network Control System with Virtual Instrument	1408
<i>H. Shu, H. Shu</i>	
Simulation Studies on Improved Generalized Predictive Control of Hydraulic-driven Erecting System.....	1412
<i>C. Ma, F. Li, L. Hao, Z. Zhang</i>	
Military Task Programming Based on Finite State Machine (FSM) Decision-making Model.....	1416
<i>S. Ma, G. Gong, L. Han, X. Song</i>	

Networked Modeling and Simulation Based on SimEvents	1421
X. Xu, Z. Wang	
INS/GPS Integrated Navigation for Wheeled Agricultural Robot Based on Sigma-point Kalman Filter	1425
Y. Zhang, F. Gao, L. Tian	
A Study on the Stability of Current-Mode Control Using Time-Delay Model of Pulse-Width-Modulator	1432
Z. Xu, W. Xu, Y. Yu, Q. Wu	
A Computational Model for Bats' Echolocation Based on Mammalian Auditory System.....	1436
B. Cheng, H. Zhang	
Stress Wave Propagation Modeling in Wood Non-destructive Testing.....	1441
H. Feng, G. Li	
Design and Optimization for Ellipsoid Back Projection Screen of Collimated Display System in Flight Simulator	1446
B. Ma, L. Li, Q. Ma	
A Multi-loop Hysteresis Model of Piezo Actuator Based on LS-SVM.....	1451
X. Yang, W. Li, Y. Wang, X. Su	
Research on Vision-Based Multi-user Gesture Recognition Human-computer Interaction	1455
G. Zhang, D. Zhang	
Infrared Target Radiation Calculation and Simulation Scene Generation	1459
Y. Zhang, H. Yu, J. Zhang	
Research and Implement on the Layout Method of Bom-based Federation	1464
X. Zhao, J. Huang, J. Gong, Y. Peng	
Application of Expert PID Main Steam Temp. Control Based on Fuzzy Multiple Models.....	1470
H. Kou, Y. Wu, Y. Chen	
Simulation and Adjustment of System Dynamics on Sustainable Development of Coal City	1474
P. Yao, Y. Lu	
A Simulative Building Fire Spread Tracking System Based on FPGA and 1-Wire Bus Sensor Network	1482
S. Xiao, W. Xu, Y. Yu	
Analysis of a Yield Controlled Highway Intersection Using Microscopic Traffic Simulation	1487
G. Zhang, J. Lu, W. Wang, Q. Xiang	
Research on Multidisciplinary Virtual Prototype Application Technology for Complex Electromechanical Product Based on COSIM Platform	1493
T. Song, T. Lin, J. Zhou, L. Tao, X. Chai	
Research on Key Technologies of Standard Atmosphere Database	1497
X. Song, L. Xin	
Manufacturing Information System Evolution Direction Distinguishing Model Based on Dissipative Structure Theory and Gray Relation Entropy.....	1501
S. Zhao, Z. Liu, Y. Li	
Self-Certified Identity-based Signcryption in DRM.....	1505
A. Sui, B. Peng, Y. Wang	
Evaluation Method based on Markov Chain Model	1511
L. Li, Q. Guo, X. Yang	

A Survey of Multi-domain Unified Modeling of Complex Product and Optimization Design Techniques	1515
<i>S. Fan, B. Li, X. Chai</i>	
Semantic SOA Based Integrated Development Environment for Complex Information Systems	1521
<i>N. Si, P. Yu, L. Zhang</i>	
CMAC-Based Model Reference Adaptive Speed Control Using in High Precision Servo Systems	1527
<i>H. Hu, D. Li</i>	
A Feedback Control Method Based on Forecast for State Compensation of Networked Control System	1532
<i>Z. Zhang, W. Wang</i>	
Cooperative Particle Swarm Optimizer Based on Multi-population and Its Application to Flow-Shop Scheduling Problem	1536
<i>B. Yu, B. Jiao, X. Gu</i>	
The Analysis and Simulation of the Detectors Based on FRFT Statistic Performance.....	1543
<i>J. Liu, B. Yuan</i>	
Solution to Hardware-in-loop Simulation Test System for Phased Array Doppler Sonar	1549
<i>B. Yuan, X. Chen, X. Huang, B. Tang</i>	
Modeling and Simulation on Accuracy of Broad Band Acoustic Doppler Current Profiler	1553
<i>X. Huang, B. Yuan</i>	
Nondestructive Evaluation of Strengthened Decks using a Microgenetic Algorithm	1557
<i>S. Lee, M. Noh, H. Jang, T. Park</i>	
Research and Application of Modeling Method Based on Balance Points of Controlled Object	1563
<i>Z. Han, D. Li, C. Zhou, Z. Zhu, C. Yan</i>	
Author Index	