Fourteenth Chinese Conference on System Simulation Technology & Application

(SSTA 2012)

Sanya, China
11 – 15 August 2012

Volume 1 of 2

Editors:

Z. Chen
T. Xiao

ISBN: 978-1-62993-381-8
Contents

Part I  Keynote Speeches

Research of Warship CGF Battle Decision-Making Simulation Based on Rule Engine
  Jianhua CHEN, Gangqiang LI, Tiaoping FU .................................................................(1)
Fault Tree Analysis Based on Semi-Qualitative Theory
  Yuanliang HUANG .......................................................................................................(6)
Research on the Vulnerability of the SoS Network with Spectral Analysis of Its Laplacian Matrix Eigenvalues
  Weixin JIN, Tianyuan XIAO ......................................................................................(11)
Test and Research of Simulation Based-On Virtual Technology for Situation Awareness System
  Qing XUE, Jia LUO, Youlin LI, Changwei ZHENG, Yonghong LIU .................................(16)
Modeling and Analysis of the Virtual Organizational Operation Performance Based on Information Coordination Strategies:
  A Simulation Study
  Haibin LIU, Bin HU .....................................................................................................(20)

Part II  Modeling and Simulation Method

Researches on Terminal Area PBN Flight Procedure Validation
  Shidong MA, Yuncheng HE, Zhong WANG, Guoqing YANG ........................................(24)
Direct Numerical Simulation on Aerodynamic Characteristics of Rocket Stage-Separation Flow
  Xin LIU, Jingzhou LIN, Changfeng ZHANG ...................................................................(30)
Heat Transfer Prediction Using Global High-Order Accurate Algorithm in Hypersonic Flow Simulation
  Xin LIU, Xiaogang DENG, Liangzhong CHEN, Jingzhou LIN ...........................................(35)
The Extrapolation Method for Composite Simpson Numerical Integral Formula
  Aisheng XIA, Wenli SUO, Rui WANG, Baoan HU .........................................................(41)
Extrapolation Method of Two Order and Three Points Numerical Differential Formulas
  Aisheng XIA, Jia LIU, Baoan HU, Huipeng ZHANG .....................................................(44)
Intuitionistic Fuzzy Homomorphisms of Intuitionistic Fuzzy Group
  Rui GUO, Xuanhai LI, Feng LIU ....................................................................................(47)
Passive Sonar Beam Forming Techniques of Simulation System
  Jun XIE, Lianglong DA, Shuai TANG ..............................................................................(51)
Model Reduction and Parameter Identify of Fluid Network Using Evolutionary Arithmetic
  Gang CHENG, He NI, Fengrui SUN ..............................................................................(55)
Numerical Simulation with Overset Grids about the Open & Close Process of Embedded Weapon Bay
  Zhao ZHANG, Jifei WU, Laiwu XU ..............................................................................(62)
Investigations on Numerical Simulation Method for Aeroacoustics Based on Coupling Aerodynamics and Acoustics
  Dangguo YANG, Jianqiang LI, Xiaoyong MA, Jimin LIANG ...........................................(68)
A Quality Based Data Creditability Evaluating Method in Complex Systems Simulation
  Yingchao ZHANG, Jing ZHANG, Wei LI, Feng YE .........................................................(73)
Multi-Point Optimization of Supercritical Airfoil Based on Agent Model
  Yang TAO, Yonghong LI, Yong HUANG ......................................................................(77)
<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accelerating Implementation of Solving Sparse Linear Equations via Conjugate Gradient Method Based on GPU</td>
<td>Fan YANG, Kun WANG, Tongnian SHI, Han CHU</td>
<td>82</td>
</tr>
<tr>
<td>Study on Model of Determining Tactic Airspace Conflict</td>
<td>Jianping WANG, Zili ZHANG, Hua WEI</td>
<td>85</td>
</tr>
<tr>
<td>Application of Finite Differentiation Method in Aerodynamic Shape Optimization for Wing</td>
<td>Xiaoqiang MA, Junqiang AI, Bifeng SONG</td>
<td>89</td>
</tr>
<tr>
<td>A Review on the VV&amp;A Process of Modeling and Simulation</td>
<td>Ruiying HU, Honghua YANG</td>
<td>94</td>
</tr>
<tr>
<td>Research on 3D Registration Algorithm Based on Mathematical Character of the Fiducial Marker</td>
<td>Jinlan KANG, Wanhong LIN, Ying XIONG</td>
<td>98</td>
</tr>
<tr>
<td>Research on the Model of Evaluating the Equipment Quality in Using Stage</td>
<td>Zongchang XU, Yong LI, Yang CAO, Guangming ZHANG</td>
<td>103</td>
</tr>
<tr>
<td>Fast Stereo Matching Using Reduce-Graph Cuts</td>
<td>Lihui GAO, Hailong LU</td>
<td>108</td>
</tr>
<tr>
<td>Combat Complex Adaptive System Modeling by Flexible Multi Resolution Method</td>
<td>Haitao BAI, Jiang ZHU, Hao CHEN, Qiang ZONG</td>
<td>113</td>
</tr>
<tr>
<td>Study on the Aerodynamic Characteristic of Turbine with Different Location of Air from the Film Holes at Low Reynolds Number</td>
<td>Yong LI, Huairong SHEN, Long XU</td>
<td>117</td>
</tr>
<tr>
<td>Multi-Rigid-Body Spacecraft Impact Dynamic Modeling and Simulation Validation Based on the Principle of Momentum Transfer</td>
<td>Yongming GAO, Hui YAN, Yajun HU, Zhen ZHU</td>
<td>122</td>
</tr>
<tr>
<td>Numerical Simulation of the Jet Penetration the Target Base on ALE</td>
<td>Junqing HUANG, Guanghui LI, Jianxun ZHAO, Xuehui YANG</td>
<td>128</td>
</tr>
<tr>
<td>Modeling and Simulation of C2BMC Based on TAUG2</td>
<td>Huifeng ZHANG, Zhan Yue ZHANG, Yaxiong ZHAO</td>
<td>133</td>
</tr>
<tr>
<td>Data on Mining of Analysis-Cluster Prediction Method of Modeling for A-Share Stock Index and Implications for Police Action Intelligence Analytical Techniques</td>
<td>Xiaohui ZHANG</td>
<td>138</td>
</tr>
<tr>
<td>Model and Simulation of Deployment Region Generation for Landing Warfare Based on Genetic Algorithm</td>
<td>Yu LIU, Jianhua CHEN, Jiayan WEN</td>
<td>143</td>
</tr>
<tr>
<td>Virtual Landing Field Modeling Based on Creator/Vega Prime</td>
<td>Jiayan WEN, Wei CAO, Yu LIU</td>
<td>150</td>
</tr>
<tr>
<td>Modeling and Simulation of Distributed Underwater Detection System Based on TrueTime</td>
<td>Bo LI, Jiang QIAN</td>
<td>154</td>
</tr>
<tr>
<td>A Method of Simulation Resource Description Based on Metadata and Ontology</td>
<td>Ping LIU, Xihui FAN, Haitao WANG, Aijun YANG</td>
<td>159</td>
</tr>
<tr>
<td>Simulation of Constant Modulus Blind Equalization Algorithms Based on Different Error Functions</td>
<td>Lijin CAI, Shaolun SUN</td>
<td>164</td>
</tr>
<tr>
<td>Research on Biofidelity of Surface Ship Maneuverable Simulate Model</td>
<td>Guomin PAN, Jin DENG</td>
<td>168</td>
</tr>
<tr>
<td>The Application of Channel Texture in Creator Modeling</td>
<td>Xiaoping XING, Weiqing YANG, Xichun HU</td>
<td>173</td>
</tr>
<tr>
<td>Modeling and Simulation of Space-Based Information System’s Capability</td>
<td>Yanli XU</td>
<td>176</td>
</tr>
<tr>
<td>Research on Mission Profile Modeling Method for Complex System Mission Reliability Simulation</td>
<td>Junhai CAO, Peng CHEN, Dan XU</td>
<td>181</td>
</tr>
</tbody>
</table>

Aerodynamic Characteristic Numerical Simulation and Optimization of Large Airplane
<table>
<thead>
<tr>
<th>Authors</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wenhua WU, Dehua CHEN, Yang TAO, Xin PENG</td>
<td>Mean Shift Algorithm Combining with Interacting Multiple Model</td>
<td>(186)</td>
</tr>
<tr>
<td>Liqi WANG, Xiaoqiang YAN, Xiaoling MA</td>
<td>Research on Modeling Method of MSTS Environment Control and Lift Support System Training Simulation</td>
<td>(191)</td>
</tr>
<tr>
<td>Junjun WANG, Zhide HUANG, Pu WANG</td>
<td>Threat Evaluation Model of the Multi-Target Based on TOPSIS Method</td>
<td>(196)</td>
</tr>
<tr>
<td>Han ZHANG, Shiyong ZHENG, Hongxiao ZHANG</td>
<td>Application of Improved ICP Algorithm in Point Cloud Registration</td>
<td>(201)</td>
</tr>
<tr>
<td>Yun JING, Shivei HE, Zhiqiang TIAN, Qi SONG</td>
<td>Quantum Immune Clonal Algorithm for No-Idle Flow Shop Scheduling Problem</td>
<td>(209)</td>
</tr>
<tr>
<td>Junjun WANG, Zhide HUANG, Pu WANG</td>
<td>Modeling and Simulating for Video Grid Based on AnyLogic</td>
<td>(213)</td>
</tr>
<tr>
<td>Qing XUE, Huibo GAO, Wei LI, Youlin LI</td>
<td>Infrared Imaging Modeling of Soldiers</td>
<td>(216)</td>
</tr>
<tr>
<td>Yonghong LIU, Qing XUE, Xiaoming REN</td>
<td>Research of Driving Manipulation Modeling and Simulation</td>
<td>(221)</td>
</tr>
<tr>
<td>Pengshan FAN, Qiaoli LI</td>
<td>Research on Modeling Based on MAS for Reconnaissance Satellite System</td>
<td>(226)</td>
</tr>
<tr>
<td>Xuanliang HE, Hui WANG</td>
<td>Benefit Evaluation of VV&amp;A in M&amp;S</td>
<td>(232)</td>
</tr>
<tr>
<td>Yizhong FANG</td>
<td>Simulation and Analysis of STSS Constellation Detection Capability</td>
<td>(236)</td>
</tr>
<tr>
<td>Runle DU, Yonghai WANG</td>
<td>Modeling Technique for Small Scale Vehicles</td>
<td>(239)</td>
</tr>
<tr>
<td>Peng WANG, Qibin ZHANG, Yan LV, Zonghai CHEN</td>
<td>Semantic Information Controlled Map Building of Mobile Robot</td>
<td>(244)</td>
</tr>
<tr>
<td>Mingwei GUO, Yuzhou ZHAO, Zhiling WANG, Zonghai CHEN</td>
<td>Pedestrian Detection Using Haar-Like Features Based on Visual Memory</td>
<td>(252)</td>
</tr>
<tr>
<td>Meiqing LIN, Yuliang GAO, Fei RUAN</td>
<td>Study on Simulation and Evaluation Based Radars Mission Shifting Scheme Design for Air Defense and Anti-Missile</td>
<td>(256)</td>
</tr>
<tr>
<td>Zeyan ZHOU, Honglei YAO, Yongsheng ZHU, Yan ZHANG</td>
<td>Research of Simulation Platform for Railway Information Systems Security</td>
<td>(262)</td>
</tr>
<tr>
<td>Shidong MA, Yuncheng HE, Zhong WANG, Guoqing YANG</td>
<td>Researches on Simulation and Validation of Airborne Enhanced Ground Proximity Warning System</td>
<td>(266)</td>
</tr>
<tr>
<td>Wei LI, Taoping FU, Li YAN</td>
<td>Design and Achieve Maritime War Gaming Based on Computer Games</td>
<td>(272)</td>
</tr>
<tr>
<td>Fengyuan WANG, Longyue ZHENG, Yuhua REN</td>
<td>Driving Simulation System for Research of the Driving Behavior</td>
<td>(277)</td>
</tr>
<tr>
<td>Xianju YUAN, Liying YAO, Feng DU</td>
<td>Design and Simulation of Exhaust Gas Recirculation Valve Actuated by Proportional Solenoid</td>
<td>(283)</td>
</tr>
<tr>
<td>Wei HUANG, Huaxing WU, Yi LU</td>
<td>Design of Simulation for UFCP Based on ZigBee</td>
<td>(289)</td>
</tr>
<tr>
<td>Distributed Simulation of Avionics System Based on Wireless Network Technique</td>
<td>(293)</td>
<td></td>
</tr>
</tbody>
</table>
Huaxing Wu, Wei Huang, Yi Lu………………………………………………………………………(293)
Research of Model Integration Oriented Framework for Distributed DEVS/HLA Simulation
Dehu Rao, Xiaofeng Hu, Lin Wu………………………………………………………………………(298)
Scenery Construction of RC Flight Simulator Based on Qt/OpenGL and Panoramas
Zhaozheng Tan, Yanfei Dong………………………………………………………………………(304)
Simulation of Temperature Increase in Human Eyes Due to Electromagnetic Radiation
Fanshui Lu, Hongfeng Yu, Changjun Wang, Zhiwen Huang, Jianhua Li, Li Wu, Chun Cai……………………………………………………………………………………………(309)
Key Technology and Research of Visualization of the Geographic Information on Scene Simulation
Jian Li, Hong MA, Chen Li……………………………………………………………………………………………(315)
Realization of 3D Sound Effect of Sound System of Flight Simulator
Lishan Jia, Liwen Wang……………………………………………………………………………………………(320)
Design of 3D Situation Display Federal of Simulation Based on Open Data-Engine
Jiangpeng Tian, Qing Xia, Fenli Jia, Bingchuan Jia……………………………………………………………(327)
Design of Semantics-Based Virtual Scene Editing System
Yong Wei, Feng Ou’yang, Gang Chen……………………………………………………………………………………………(333)
Multisensor Registration Based on Levenberg-Marquardt Optimization Method
Jiang Qian, Jianping Fang……………………………………………………………………………………………(339)
Research on Distributed Architecture of Virtual Battle Space Aimed at Virtual Flight Test
Da Wu, Li Liu, Hua Xiao, Jianjun Deng, Yijing Xie………………………………………………………………………(343)
Design and Implementation of vsTasker Scenario Federate Base on HLA
Huawei Zhao, Leiming Zhang, Ning Zhou………………………………………………………………………(348)
Simulation Training System Design Based on CDLV Model
Shaowei Zhu, Xinsheng Liu, Lei Xu……………………………………………………………………………………………(354)
Simulation Research of Space Target Surveillance System Based on STK
Hailing Liao, Yasheng Zhang, Haijun Zhou………………………………………………………………………(360)
Simulation of the Satellite Power System Based on the SIMULINK
Yaxiong Zhao, Xinhong Li, Shenghui Wan, Zhong He………………………………………………………………………(365)
Research of Virtual Simulation System for Captive Trajectory Test Based on Creator and Vega Prime
Run Zhou, Xuhui Huang, Bo Yu, Bo Zhou, Feng Liu………………………………………………………………………(369)
Study on the Simulation Experiment Framework of Space Information Operation
Zhen Li, Shengliang Fang, Bendi Tu, Zhijian Wu………………………………………………………………………(374)
The Design and Implementation of the DSP-Based Aerial Moving Target Generation System
Nan Qi, Zheng Mao, Liping Zheng, Chao Peng, Tianshu Lu………………………………………………………………………(377)
Comparison and Application of HLA and Reflect Memory Network in Distributed Simulation
Haichuan Tang, Qingyuan Wang, Xuan Lin, Xiaoyun Feng………………………………………………………………………(382)
Design and Simulation of FIR Filter Based on VHDL
Huawei Lin, Min Fei, Wei Xing……………………………………………………………………………………………(387)
Research of View Display System in Distribute Combat Simulation
Ning Li, Jingye Wang, Shuangshuang Yu……………………………………………………………………………………………(390)
Application of HLA Technology in Modeling and Simulation of the Material Support Logistics System
Shuangshuang Yu, Tiening Wang, Hongshui Liu, Ning Li………………………………………………………………………(395)
Simulation Research on Responding Search Efficiency of Round Sonobuoy Array
Jun Fan, Guoxin Xie…………………………………………………………………………………………………………………(400)
Research on Model Architecture of Service-Oriented Battlefield Environment Simulation
Quanfeng Ma, Shaoyong Shi, Ying Liang, Gaige Huang………………………………………………………………………(404)
Study of Multi-User Model in Oil Loading & Unloading Simulation Training System
Jingheng Ma, Ying Wu, Na Li…………………………………………………………………………………………………………………(409)
Research of Collision Detection Application Based on Positional Relation of Points and Lines
Design of Scenario Editing Tool Based on MGIS
Changwei ZHENG, Qing XUE, Xiaoming REN

Summarization of Visual Battlefield Environment
Qinhe GAO, Yong LONG, Jing YUAN, Biao DENG, Yumiao WEI

Research on Automatic Generation for Military Message from Simulation Data Based on Template
Jian SUN, Shengen ZHOU, Haohua XU

Research on Display Technology of Multi-Channel Virtual Battle Environment
Haiyang LIU, Lanying ZHANG

DDS-Based Integrating Architecture of Test Bed
Qi LIN, Yong CHEN

Modeling Method of Behavior Process in Combat Simulation
Ming SUN, Yongqian LI, Shen ZHANG, Ping CHEN

Designing and Realizing Test System for Simulator Simulation
Pu WANG, Yuan WU, Junjun WANG

Falling off Simulation of Connecting Corridor of High-Rise Building Subjected to Bi-Directional Earthquake
Yongfeng DU, Zhenyu WANG

Research of Simulation of Active Towed Array Sonar with Hydroacoustic Countermeasures
Bin LIU, Jianhua CHEN, Weibo LI

Design and Development of Simulation Directing & Control Software Based on Stand-Alone Front-End and Back-End
Xuelong HOU, Dengan CHEN, Wenyun WANG

Research and Development of Simulation Experimental Teaching Platform for Electronics and Telecom Majors in Higher Vocational College
Shijin LIU, Gaosu XU, Jingquan ZHANG, Dali LIU

Research on Simulation for Large Regional Virtual Scene Based on Vega Prime
Lianxing JIA, Yinghao ZHU

Wind Power Forecasting Simulation Based on the AR Model
Lei FENG, Hong HUANG, Xiukun ZHANG, Xin ZHANG

Simulation of the Characteristics of Self-Noise in Ship’s Sonar Domes Laying Regions of Wedge
Dejin QIAN, Xuhong MIAO, Di JIA

Design on Fractionated Spacecraft Ground Simulation Platform and Communication Protocol Simulation
Xinglong WANG, Yunfeng DONG

Research on the Key Technology of Anti-Aircraft Carrier Simulation System
Xu LUNO, Zhiwei HU, Jiahong LIANG, Haiquan QIAO

Design and Implementation of Carrier Aircraft Landing Visualization Simulation System
Daguang YANG, Weiduo HU, Dong CAO, Chang LIU, Chen SUN

A Primary Study on Constructing System of Armament Systems with Portfolio Theory
Guangzhi BU, Qinzhang YU, Zhaojun MAO

Design Optimization of Grid Fin Based on Kriging Model
Yonghong LI, Yong HUANG, Yang TAO

Space Robot’s Orbit Design for GEO Satellite
Ying WANG, Yong CHEN, Chao GUO, Jianming YU

Part IV  Aerospace and Equipments Simulation

Simulation of the Characteristics of Self-Noise in Ship’s Sonar Domes Laying Regions of Wedge
Dejin QIAN, Xuhong MIAO, Di JIA

Design on Fractionated Spacecraft Ground Simulation Platform and Communication Protocol Simulation
Xinglong WANG, Yunfeng DONG

Research on the Key Technology of Anti-Aircraft Carrier Simulation System
Xu LUNO, Zhiwei HU, Jiahong LIANG, Haiquan QIAO

Design and Implementation of Carrier Aircraft Landing Visualization Simulation System
Daguang YANG, Weiduo HU, Dong CAO, Chang LIU, Chen SUN

A Primary Study on Constructing System of Armament Systems with Portfolio Theory
Guangzhi BU, Qinzhang YU, Zhaojun MAO

Design Optimization of Grid Fin Based on Kriging Model
Yonghong LI, Yong HUANG, Yang TAO

Space Robot’s Orbit Design for GEO Satellite
Ying WANG, Yong CHEN, Chao GUO, Jianming YU
<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimal Design of Winglets Based on CFD</td>
<td>Dawei LIU, Dehua CHEN, Xin XU</td>
<td>517</td>
</tr>
<tr>
<td>Research on Scene Simulation of Damage Process by a Missile to Buildings</td>
<td>Wei liang GAO, Chaoyang ZHOU, Xing WANG</td>
<td>521</td>
</tr>
<tr>
<td>Hardware-In-The-Loop Simulation Research of Infrared Guidance Control System</td>
<td>Li LIU, Xingtang LIU, Dong YUAN, Da WU, Hua XIAO</td>
<td>526</td>
</tr>
<tr>
<td>Simulation Model for Air Passive Sonobuoys Combat Effectiveness of Searching Submarine</td>
<td>Feng QIN, Mingtai SUN, Lihui ZHOU</td>
<td>535</td>
</tr>
<tr>
<td>Application of Petri Net for Warship Anti-Submarine CGF Model</td>
<td>Zhiyun ZHAO, Mingtai SUN, Jianhua CHEN, Gang LIU</td>
<td>540</td>
</tr>
<tr>
<td>Research on the Equipment of IETM Interactive Training System</td>
<td>Zongchang XU, Guangming ZHANG, Bo LI</td>
<td>545</td>
</tr>
<tr>
<td>Research on the Configuration of the Global Land Surveying and Mapping Satellite Formation</td>
<td>Weikun ZHU, Wenjiang ZHAI</td>
<td>549</td>
</tr>
<tr>
<td>Transonic Airfoil Inverse Design Based on Hicks-Henne Shape Function</td>
<td>Guangyuan LIU, Yang TAO, Qitong GUO, Jiangping XUE, Jiangyu XIE</td>
<td>552</td>
</tr>
<tr>
<td>Analysis Method of Weapon Equipment Based on System</td>
<td>Ruopeng YANG, Jianjun YANG, Sanxi WANG</td>
<td>557</td>
</tr>
<tr>
<td>Research on the Integrated Logistics Support System Based on Multi-Agent Modeling Method</td>
<td>Bo LI, Zongchang XU, Shufeng HUANG, Yong ZHANG</td>
<td>562</td>
</tr>
<tr>
<td>Investigation of xPC Based Real Time Simulation of Spacecraft Electromagnetic Formation Control System</td>
<td>Hong YAO, Yafeng TANG, Min HU</td>
<td>567</td>
</tr>
<tr>
<td>Analogue Training System Design of a Furnishment Based on HLA</td>
<td>Peiyuan WANG, Yi WEI, Pengcheng YANG</td>
<td>572</td>
</tr>
<tr>
<td>Research on Multi-Rigid-Body Spacecraft Mission Planning &amp; Scheduler and Simulation Validation Based on STK/Scheduler</td>
<td>Yongming GAO, Hui YAN, Yajun HU, Zhen ZHU</td>
<td>576</td>
</tr>
<tr>
<td>Designing and Applying of Certain Equipment Virtual Maintenance Training System</td>
<td>Xin SUN, Xuezeng ZHU, Haitao BAI, Yaoxing WU, Zhilong LIU, Zhirong LU</td>
<td>581</td>
</tr>
<tr>
<td>Research of Complexity Effect to EBS Credibility</td>
<td>Wenchao XU, Qing XUE, Yinxiao MAO, Fei YUN</td>
<td>586</td>
</tr>
<tr>
<td>Simulation Research on Observed-Estimated Submarine Moving Factors by Towed Sonar on Two Warships</td>
<td>Li YAN, Tiaoping FU, Weiwei LI</td>
<td>589</td>
</tr>
<tr>
<td>Simulation on Proximity Orbit Maneuver of Spacecraft</td>
<td>Yujun ZHANG, Shuxing FENG</td>
<td>593</td>
</tr>
<tr>
<td>Research and Implementation of Airplane Typical Motion Model in Simulation System</td>
<td>Wei CHU, Xing'e YAN, Chunmei SU</td>
<td>597</td>
</tr>
<tr>
<td>The Simulate Analysis of Mine Obstruction Efficiency</td>
<td>Jin DENG, Jianhua CHEN, Yanhui ZHANG</td>
<td>603</td>
</tr>
<tr>
<td>Warship Formation Combat Simulation Based on Role</td>
<td>Yizhi LIANG, Chao WANG, Yun ZHANG</td>
<td>608</td>
</tr>
<tr>
<td>Company Commander Modeling in Military Equipment Battle Simulation</td>
<td>Zaijiang TANG, Qing XUE, Minjie ZHU, Yongchun XIA</td>
<td>613</td>
</tr>
<tr>
<td>Study on Requirements of Operation Data Logging in Warship Operation Simulation Training Evaluation</td>
<td>Xuefei LI, Yongkan SUN, Zhengxiang XIONG</td>
<td>618</td>
</tr>
<tr>
<td>Launching Method of the Rocket Assisted Torpedo Based on Ship Form</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Part V  Control and Decision

Research on Control Method for Automobile Anti-Lock Brake System Based on Fuzzy Control Theory
Wentao HAN, Lingfeng MEI

An Optimization Algorithm of Active Shimming Current for Magnetic Resonance Imaging System

Haicheng WU, Li JING, Shiyou YANG

Cooperative Decision Making Method of Sea Battle Based on Theory of Complexity

Chao WANG, Yizhi LIANG

Research on Evaluation Method of Dynamic Uncertainty Based on Confident Interval

Wenming SHI, Xiaodong YANG

A Stage Structured Predator-Prey System with Delay and Mortality Rate

Baoan HU, Qian MA, Rui WANG

Study on Wing Aerodynamics Configuration Optimization Using Genetic Algorithm

Xin PENG, Dehua CHEN, Wenhua WU, Dawei LIU

Isolation Control of Carrier Turbulence for Speed System of Airborne Electro-Optical Gyro-Stabilized Platform

Xueyun WEI, Shuang CONG, Ke DENG, Honghai SHEN

Research on System Prediction Based on BP Neural Network

Zongchang XU, Weicheng ZHU, Guangming ZHANG

Hardware Design of Numerical Fire Control Simulator for Naval Gun Based on Ethernet

Chi HE, Guangling DONG, Qiang LI, Wenkai XIE, Jian LU

A Whitebox Fuzzing Technique Based on Fault Injection

Jiwei ZHENG, Honghui LI, Meng ZHANG

Function Optimization Based on Improved Clonal Selection Algorithm

Xi CHEN, Yaxuan DING, Jianjun HE

Single and Multi-Point Aerodynamic Shape Optimization of Low Reynolds Number Airfoils

Xuekong CHEN, Zheng GUO, Fan YI, Ruibo WANG, Daiyong MAO, Jiangyu XIE, Xingwu TANG

Study on the Dynamic Assessment of Air Weapons Combat Effectiveness

Kun WANG, Xiaobo YUAN, Hong ZHANG, Fan YANG, Zhibin LI

Study on the Assist Generating of Air Defense Forces Fire Plan

Xiaobo YUAN, Kun WANG, Xinshun LIU, Zhongying WANG, Yongqiang YANG

Global Sliding-Mode Variable Structure Control Based on Dynamic Inversion for a Class of Uncertain Nonlinear Systems

Qiang ZHL, Yuanli CAI

Research on ABMS Based Wartime Spares Support Adaptation Decision

Xichun LIU, Han XIAO

Research on the Fault Diagnostic Resources of Remote Collaboration Based on IETM

Hanbing SUN, Zongchang XU, Zhao AN

Frequency Estimation Algorithm of Sinusoid Signal Based on DFT Coefficients Correction

Youhua CHEN, Zhiyong YU

Aircraft Simulators Exchange Instrumentation System Genetic Algorithm Optimization Control

BaoLong LIU, XiaoQi LI, Xiulin ZHENG

Research of Virtual Soldier Path Plan Based on Improved Genetic Algorithm

Qing XUE, Qing DENG, Lei LIU, Huibo GAO

Simulation Based on Matlab for Control System of High Performance UAV

Zhongpei ZHENG, Haihang XU

Research on Directing and Adjusting System in Combat Simulation System

Yi ZHANG, Jinguo TANG, Jiying LI

Nonlinear Control Study and Apply of a Six Degree-of-Freedom Platform for Flight Simulators

Chunping PAN, Jianmin LIANG, Guanghua WU

Design and Application of Bootloader in Battery Management System Based on CCP Protocol

Jingru ZHANG, Yao HE, Xingtao LIU, Chenbin ZHANG, Zonghai CHEN

Investigation on Data Processing Method for Flutter Test with Continuously-Varying Dynamic Pressure
Study of Fault Data Module in IETM for Fault Diagnosis
Hongtao GUO, Jing LIU, Binbin LV, Yu YAN, Xiping KOU

Continuous Time Predictive-PID Cascade Control
Huan WEI

Research on Torque Allocation Strategy for Flywheel Based on Multi-Objective Genetic Algorithm
Qiankun CHENG, Ying LIAO, Xiangchun LIU

Design of Sensor Network Based on Fault Observability and Resolution
Huan WEI

Simulation Study of Constrained Predictive Control for Gas Injection
Huan WEI

Design of Busway’s Temperature Monitoring System Base on ZigBee Wireless Technology
Dongsong YAN, Yuanliang HUANG

Research on Digital Development Technology for Distributed C2 System
Zongchang XU, Shufeng HUANG, Hanbing SUN

A Composite Variable-Structural Lateral Autopilot Design and Simulation
Jingju ZHU, Bo LUO, Qilin LIU

Target Optimization Based on IDC Decision
Shuangxi HAN, Zhonglin FENG, Ming JIANG

SOC Estimation for Power Li-Ion Battery Based on Unscented Kalman Particle Filter
Yao HE, Xingtao LIU, Li CHEN, Chenbin ZHANG, Zonghai CHEN

Application of Predictive Control Method in the Flight Vehicle
Haijun RONG, Yuanli CAI

Optimization of PID Controller Parameters Based on Improved Quantum Inspired Evolutionary Algorithm
Guozhu LI

Research on the Army’s Command and Decision Support in the Action against Emergency and Disaster Based on Case Reasoning
Wei BAO, Hua LIU, Suping CAO

A New High-Order Sliding Mode Control Algorithm for Nonlinear Missile Systems
Yuanli CAI, Weiqiang TANG, Haiyan GAO

Optimization of Energy Consumption for Wireless Sensor Networks via Simulated Annealing Method
Dongdong XU, Shizhen QU, Guoyu FU, Chunlin CHEN

Study on the Integration of MSDL and C-BML
Yan JIN, Lianxing JIA, Lin WANG

Research on Pixel Simulation Method in Injure Effect Evaluating on Gray Image
Dengan CHEN, Xuelong HOU, Jiangbo SUI

Control Strategies of Linear Quantum Optics System
Kangning SONG, Shuang CONG

Image Encryption Scheme Based on a New Six-Dimensional Hyperchaotic System
Mingqing ZHU, Tong GAN, Zonghai CHEN

A Novel Method for Infrared Object Detection Based on Human Visual Attention Mechanism
Mingqing ZHU, Tong GAN, Zonghai CHEN

Analysis on Present Progresses and Trends on Modeling and Simulation Optimization of Manufacturing System
Huawei CHEN, Guoping LIU, Haining TU, Aimin WANG, Ruxin NING
Part VII  Gray & Qualitative Simulation

Fuzzy Logic Modeling of Unsteady Aerodynamics at High Angle of Attack
Xiaojuan YANG, Zhongliang ZHAO, Hongbiao WANG, Haiyong YANG, Shang MA----------------------------------------------------------(968)
Military Materials Supply Effectiveness Evaluation Based on Qualitative Simulation
Dan XU, Ming SUN, Bo WANG-----------------------------------------------------------------------------------------------(974)
Modeling and Simulation of Nonlinear Dynamic System Based on Qualitative Phase Portrait
Chenxi SHAO, Zhenzhong SHAO, Xiangdong HU---------------------------------------------------------------------------------(979)
Qualitative Representation and Reasoning in Cognitive Maps: A Survey from Spatial Cognition Perspective
Yan LV, Peng WANG, Zonghai CHEN-------------------------------------------------------------------------------------------(984)
Adaptive Traffic Signal Control Based on Grey Qualitative Theory
Junping XIANG, Zonghai CHEN--------------------------------------------------------------------------------------------- (990)

Part VIII  Other Topics

Application of LoD in 3D University Walkthrough System Based on Wavelet Transform
Shuang LIU, Peng CHEN, Jian YUN------------------------------------------------------------------------------------------(995)
Performance Analysis of Directory Server Based on JMeter
Yaofeng SU-----------------------------------------------------------------------------------------------------------------(999)
Design of Cable Trench Fire Risk Monitoring System
Haicheng WU, Wei LI, Minghao FAN, Shuping WANG-----------------------------------------------------------------------------(1003)
Design of General I/O Interface of Flight Parameter Data File
Jicheng QIAN, Xiyue TONG---------------------------------------------------------------------------------------------(1007)
Study of Acceleration Measurement Based on ADXL202E Sensor
Quan GUO, Kun XU, Dongyan WU----------------------------------------------------------------------------------------(1011)
Thermal Analysis of T/R Module with Heat Pipes
Chao ZHANG, Bin LI---------------------------------------------------------------------------------------------(1016)
Design and Realization of Panorama Edit System Based on Krpano
Guoqing ZHU, Dongliang LI, Gang CHENG------------------------------------------------------------------------------------(1020)

Author Index