Contents

Part I Research on the Man Character

1	Research on Fatigue Risk Management of Airport Staff Xiaoli Luo, Shan Zhao, Xianlin Zeng and Limin Li	3
2	The Foot Sizes of Chinese Male Pilots	13
3	Effect of Exhaustive Swimming on the Kidney Urinary Concentration Function	23
4	Heart Rate Changes Induced by Rest-Workload Alternating Pattern	33
5	Method of Formulating the Physical Fitness Standard of Serviceman	43
6	Fatigue Analysis of Load Carriage Marching Yuhong Shen and Chenming Li	51
7	Pilot Error and Error Recovery	59
8	Research on Evaluation of Operational Command Capacity for Growing Cadre Students Position Training	67

9	Countermeasures to Improve the Role Quality of a College Course Designer Hua Li, Guoxiang Tian, Jianhe Wang and Zhiwen Yuan	75
10	Improved Air Defense Command Personnel Training Quality Several Ponders	81
11	Modeling and Analysis on Quayside Crane Loading/Unloading Based on Event Sequence Diagram	91
12	Study on the Relationship Between Sitting Time Tolerance and Body Pressure Distribution	101
13	Modeling and Application Virtual Human for Ergonomics Evaluation of Armored Vehicle	111
Par	t II Research on the Machine Character	
	The second on the framework countries.	
14	Car Collision Compatibility Research and Improvement Measures	123
14 15	Car Collision Compatibility Research and Improvement Measures	123 133
	Car Collision Compatibility Research and Improvement Measures	
15	Car Collision Compatibility Research and Improvement Measures	133

Contents xvii

19	Study on the Application of RFID in the Visible Military Logistics	167
20	Research on the File Encryption System Based on Minifilter Driver	175
21	Research on the Method for Simulating 3D Dynamic Process in Two-Dimensional Space and its Application in Developing Audio and Video Electronic Textbook	183
22	Kernel-Based Enhanced Maximum Margin Criterion Algorithm for High-Dimensional Feature Extraction	191
23	Research of Big-Data Mining Visualization Application	201
Par	t III Research on the Environment Character	
24	Research on the Background Noise of Ordinary Classrooms Jie Li, Kang Jiang and Jian-Zhong Guo	213
25	Cab Suspension Vibration Isolation Analysis Based on Vibration Decoupling Theory	223
26	Hardware in the Loop Simulation for Electromagnetic Environment Based on the Software Definable Signal Generator	231
27	Research of Detecting Positions Electromagnetic Signal Leakage by Using Sensor Network	239
28	Examination of the Problems in LAN-Based Instruction Environment: From the Perspective of CLES	249

xviii Contents

29	Research of 3D Virtual Sounds in Cockpit: Calculation, Measurement, and Individuation Customization in Aviators' HRTFs	257
	Guowei Shi, Xiaochao Guo, Dewen Cheng, Xianjun Li, Duanqin Xiong and Yu Bai	
30	Application of LED in Aircraft Lighting	267
31	Research of Five-Kilometer Armed Off-Road Training Teaching Experiment	275
Par	t IV Research on the Man-Machine Relationship	
32	Research of PowerPoint Interactive Technology	285
33	Design and Research of Lunar Rover Human-Computer Interactive Roaming System	293
34	The Study of Human-Computer Interaction Virtual Design Sijuan Zheng, Fang Jie, Zengli Wang, Zhongliang Wei, Xue Shi, Liang Ling and Qiufang Wang	301
35	Design Principles to Improve Man-Machine Friendliness for Interactive PPT Presentation	309
36	Study on Influencing Factors of Human to the Performance Zhibing Pang, Honglei Li, Haitao Zhao, Kehua Zou and Cheng Jin	317
37	Requirement Analyses of City Frequency Management System Basedon Man-Machine Interface	325

38	Study on Man-Machine Interface Multimedia PowerPoint Designing	335
39	Research and Design on IETM for a Type of UAV	343
Par	t V Research on the Man-Environment Relationship	
40	Study on Safety Analysis of Passengers Hitting Frontally on Rigid Wall	355
41	Research on the Relationship Between Threat and Crew Error in Civil Aviation	365
42	Test and Analysis on Insulation of Sleeping Bag	371
43	Dynamics Response of Head and Neck Under -Gx	379
44	Effect of Deep-Breath Biofeedback on Heart Rate Variability and Blood Pressure at High Altitude	387
45	Effects of Microwave Radiation on the Blood Routine of Different Subjects	395
46	Protection and Ergonomics Analysis About Two Types of Partial Pressure Suits	401
47	Change Rules of Performance of Multi-Person and Multi-Machine Operation Under Low-Temperature Conditions	411

xx Contents

48	Comparative Analysis on the Performance of Different Students in Five Kilometers Armed Off-Road Running	421
49	Analysis of Influence on Operation Reliability by Interior Environment of a Certain Self-propelled Anti-air System Xiang Gao, Haiwen Zheng, Zhimin He, Ming Kong, Maowen Wang and Min Chen	429
50	Research on How to Improve Combat Efficiency of Air Defense Forces Under the Complex Electromagnetic Environment Kun Wang, Peng Han, Zeqiang Qi and Zaochen Liu	435
51	Discrimination Characteristics of Physical Determinants for Tactile Roughness Sensation of Fabric Surface Textures Qun Zhao, Jiyong Hu, Xudong Yang and Xin Ding	443
52	Design and Development of Novel Ventilated Clothing Xinmei Guo, Xingjuan Zhang and Xiugan Yuan	451
53	Experimental Study of Inattentional Blindness Under Altitude Environment	461
Par	t VI Research on the Machine-Environment Relationship	
54	Development of a Centralized Lubrication System for Vehicle Chassis	471
55	Study on Southeast and Inshore Area Environmental Worthiness of a Certain Equipment	479

Contents xxi

Par	t VII Research on the Overall Performance of Man-Machine-Environment System	
56	Human Reliability Analysisof Traffic Safety	491
57	Design of Virtual Training System Based on 3D Interactive Graphics	499
58	Operation Measurement in Deploying Phase of a Certain Chariot Based on Stopwatch Time Study	509
59	Research of Five Kilometers Armed Off-Road Training Methods	519
60	Study on Improving Operating Performance of Human Factors	527
61	Practice of Virtual Reality Case Teaching Using in the Military Training Based on Virtools	535
62	Predicting the Trend of Flight Safety State by According to Variation of Flight System State	543
Par	t VIII Theory and Application Research	
63	Scientific and Technical Informatics of Manned Space Based on Xuesen Qian's Systematic Theory	555
64	Review of Man-Machine-Environment System Engineering in Maritime Technology	563

xxii Contents

65	Application of Man-Machine-Environment System Engineering to Create a New World of Changqing Oilfield	571
66	Application of Man-Machine-Environment System Engineering in Special Forces	581
67	Application of Man-Machine-Environment System Engineering in Teaching	587
68	Construction of Assessment Indicator System of Tourism Destination Safety Based on the Man-Machine-Environment System Engineering	593
69	Integrated Analysis of System Reliability and Safety by Man-Machine-Environment System Engineering Baiqiao Huang and Jun Zhang	603
70	Analysis of DoD 2011-2012 New HE General Standards Hong Liang, Jianhui Li, Guohua Jiang, Zhijun Xiao, Ruiying Cao, Yongjie Ma, Yumei Zhang, Ping Liao and Mengjie Sun	611
71	Establishment of Military Ergonomics	621