Front Matter: Volume 6795
Second International Conference on Space Information Technology

Cheng Wang
Shan Zhong
Jiaolong Wei
Editors

10–11 November 2007
Wuhan, China

Organized by
Huazhong University of Science and Technology (China)

Sponsored by
Huazhong University of Science and Technology (China)
The Second Academy of China Aerospace Science and Industry Corporation (China)

Cosponsored by
The National Natural Science Foundation of China (China) • Chinese Academy of Space Technology (China) • China Aerospace Science and Industry Corporation (China) • The Third Academy of China Aerospace Science and Industry Corporation (China) • The Eighth Academy of China Aerospace Science and Technology Corporation (China) • Unmanned Aircraft Society of Chinese Society of Astronautics (China) • National University of Defense Technology (China) • Harbin Institute of Technology (China) • Tsinghua University (China) • Beijing University of Aeronautics and Astronautics (China) • Northwestern Polytechnical University (China) • University of Electronic Science and Technology of China (China)

Published by
SPIE

Volume 6795

Proceedings of SPIE, 0277-786X, v. 6795

SPIE is an international society advancing an interdisciplinary approach to the science and application of light.
The papers included in this volume were part of the technical conference cited on the cover and title page. Papers were selected and subject to review by the editors and conference program committee. Some conference presentations may not be available for publication. The papers published in these proceedings reflect the work and thoughts of the authors and are published herein as submitted. The publisher is not responsible for the validity of the information or for any outcomes resulting from reliance thereon.

Please use the following format to cite material from this book:


ISSN 0277-786X
ISBN 9780819469601

Published by
SPIE
P.O. Box 10, Bellingham, Washington 98227-0010 USA
Telephone +1 360 676 3290 (Pacific Time) · Fax +1 360 647 1445
SPIE.org

Copyright © 2007, Society of Photo-Optical Instrumentation Engineers

Copying of material in this book for internal or personal use, or for the internal or personal use of specific clients, beyond the fair use provisions granted by the U.S. Copyright Law is authorized by SPIE subject to payment of copying fees. The Transactional Reporting Service base fee for this volume is $18.00 per article (or portion thereof), which should be paid directly to the Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, MA 01923. Payment may also be made electronically through CCC Online at copyright.com. Other copying for republication, resale, advertising or promotion, or any form of systematic or multiple reproduction of any material in this book is prohibited except with permission in writing from the publisher. The CCC fee code is 0277-786X/07/$18.00.

Printed in the United States of America.

Publication of record for individual papers is online in the SPIE Digital Library.

SPIEDigitalLibrary.org

Paper Numbering: Proceedings of SPIE follow an e-First publication model, with papers published first online and then in print and on CD-ROM. Papers are published as they are submitted and meet publication criteria. A unique, consistent, permanent citation identifier (CID) number is assigned to each article at the time of the first publication. Utilization of CIDs allows articles to be fully citable as soon they are published online, and connects the same identifier to all online, print, and electronic versions of the publication. SPIE uses a six-digit CID article numbering system in which:

- The first four digits correspond to the SPIE volume number.
- The last two digits indicate publication order within the volume using a Base 36 numbering system employing both numerals and letters. These two-number sets start with 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B ... 02, followed by 10-1Z, 20-2Z, etc.

The CID number appears on each page of the manuscript. The complete citation is used on the first page, and an abbreviated version on subsequent pages. Numbers in the index correspond to the last two digits of the six-digit CID number.
## Contents

**Part One**

<table>
<thead>
<tr>
<th>Symposium Committees</th>
<th>xxvii</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>xxx</td>
</tr>
</tbody>
</table>

### SESSION 1 SPACE COMMUNICATIONS NETWORK THEORY AND TECHNOLOGY

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>6795 02</td>
<td>Interoperability middleware for OPeNDAP clients to discover data cataloged in OGC data catalogs [6795-01]</td>
<td>M. Min, Wuhan Univ. (China) and George Mason Univ. (USA); L. Di, W. Yang, George Mason Univ. (USA); P. Yue, Wuhan Univ. (China)</td>
</tr>
<tr>
<td>6795 03</td>
<td>An improved model with bending of laser beam for satellite-to-ground AO laser communication [6795-02]</td>
<td>J. Rong, F. Li, Univ. of Electronic Science and Technology of China (China); X. Zhong, Southwest Jiaotong Univ. (China); X. Ding, G. Gui, Univ. of Electronic Science and Technology of China (China)</td>
</tr>
<tr>
<td>6795 04</td>
<td>A new routing method based on ant colony algorithm for LEO satellite communication networks [6795-03]</td>
<td>Y. Wang, X. Hu, Huazhong Univ. of Science and Technology (China)</td>
</tr>
<tr>
<td>6795 05</td>
<td>Application of Turbo code in satellite-ground laser communication and analysis on its effectiveness [6795-04]</td>
<td>F. Sun, X. Zhai, Changchun Univ. of Science and Technology (China) and Armor Technique Institute of PLA (China); J. Zang, L. Song, F. Yin, Changchun Univ. of Science and Technology (China)</td>
</tr>
<tr>
<td>6795 06</td>
<td>Time domain characteristics of UWB signal transmitting through a finitely conducting slab [6795-05]</td>
<td>Y. Wang, Shenzhen Graduate School, Harbin Institute of Technology (China); N. Zhang, Harbin Institute of Technology (China); Q. Zhang, Shenzhen Graduate School, Harbin Institute of Technology (China); Z. Zhang, Harbin Institute of Technology (China)</td>
</tr>
<tr>
<td>6795 08</td>
<td>Performance research of multiple access of satellite formation flying laser communication in atmospheric turbulence [6795-07]</td>
<td>Y. Li, S. Zhao, J. Wu, G. Dai, J. Xu, Air Force Engineering Univ. (China)</td>
</tr>
<tr>
<td>6795 09</td>
<td>Research on dynamic bandwidth allocation simulation for the space network [6795-08]</td>
<td>N. He, Institute of Equipment and Command Technology (China) and Chinese People's Liberation Army (China); L. Wang, Chinese People's Liberation Army (China); Y. Lu, Institute of Equipment and Command Technology (China)</td>
</tr>
</tbody>
</table>
Dual header pulse interval modulation (DH-PIM) in FSO communications [6795-09]
T. Deng, K. Peng, Y. Lu, G. Lu, Huazhong Univ. of Science and Technology (China)

Design and real-time simulation of high-altitude/long-endurance airship flight control system [6795-10]
Z. Li, M. Wu, Northwestern Polytechnical Univ. (China)

Network coded partner selection between cooperative nodes in air-based wireless networks [6795-11]
B. Du, J. Zhang, R. Xue, Beihang Univ. (China)

Laser spot detection and characteristic analysis in space optical communication [6795-12]
J. Duan, Changchun Univ. of Science and Technology (China); C. Kong, Jinlin Architectural and Civil Engineering Institute (China); W. Jing, D. Zhang, H. Jiang, Changchun Univ. of Science and Technology (China)

Stereo vision for spacecraft formation flying relative navigation [6795-13]
W. Liu, China Univ. of Petroleum (China); L. Han, Shanghai Fire Research Institute of MPS (China)

Research on low-latency MAC protocols for wireless sensor networks [6795-14]
C. He, X. Sha, Harbin Institute of Technology (China); C. Lee, Hanyang Univ. (South Korea)

A memory cost improved bandwidth request algorithm in DVB-RCS [6795-15]
J. He, Z. Wang, Beihang Univ. (China)

Pivotal technology in UWB wireless communications [6795-16]
Q. Hou, G. Wu, Y. Huang, L. Fan, China Univ. of Geosciences (China)

Free space quantum system based on quantum secure direct communication [6795-17]
H. Ge, Huazhong Univ. of Science and Technology (China) and Wuhan Univ. of Technology (China); W. Liu, Huazhong Univ. of Science and Technology (China)

The study of an ATM switch system used for on-board processing [6795-18]
Y. Li, Northwestern Polytechnical Univ. (China); H. Xiong, China Mobile Group Jiangxi Co. Ltd. (China)

Data bus of on-board data system for micro-small satellite [6795-19]
B. Li, Y. Liu, Tsinghua Univ. (China)

Study on correcting angle-of-arrival fluctuations of space optical communication with AO [6795-20]
F. Li, J. Rong, Univ. of Electronic Science and Technology of China (China); X. Zhong, Southwest Jiaotong Univ. (China); X. Ding, Univ. of Electronic Science and Technology of China (China)

A new algorithm of BOC multipath error simulation [6795-21]
Q. Li, H. Li, B. Liu, Xi’an Satellite Control Ctr. (China)
<table>
<thead>
<tr>
<th>ID</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>0N</td>
<td>P2PQR-tree: a spatial index model for peer-to-peer environments</td>
<td>C. Chen, Huazhong Univ. of Science and Technology (China); D. Liu, Huazhong Univ. of Science and Technology (China) and China Univ. of Geosciences (China); B. Yi, Huazhong Normal Univ. (China)</td>
</tr>
<tr>
<td>0O</td>
<td>A new approach for modulation recognition based on ant colony algorithm</td>
<td>S. Liu, H. Wang, Huazhong Univ. of Science and Technology (China)</td>
</tr>
<tr>
<td>0P</td>
<td>A non-interactive and efficient key agreement protocol for ASNs</td>
<td>D. Yang, D. Mu, Z. Xu, Northwestern Polytechnical Univ. (China)</td>
</tr>
<tr>
<td>0Q</td>
<td>Design of bus-on-chip core for micro-satellite avionics</td>
<td>Y. Liu, Tsinghua Univ. (China) and Hefei Electronic Engineering Institute (China); Z. You, B. Li, X. Zhang, Z. Meng, Tsinghua Univ. (China)</td>
</tr>
<tr>
<td>0R</td>
<td>Novel multi-satellite transmit diversity schemes</td>
<td>X. Lu, Shenzhen Institute of Information Technology (China); J. Xu, ZTE Corp. (China)</td>
</tr>
<tr>
<td>0S</td>
<td>Robust method of reconfiguring complete broadband signal by using multi-channel and low rate sampling signal</td>
<td>L. Ma, G. Liao, Xidian Univ. (China)</td>
</tr>
<tr>
<td>0T</td>
<td>Real-time performance validation of spread spectrum aloha for satellite formation flying</td>
<td>W. Qiu, X. Gong, G. Xu, Harbin Institute of Technology (China)</td>
</tr>
<tr>
<td>0U</td>
<td>Satellite mission scheduling algorithm based on GA</td>
<td>B. Sun, Wuhan Univ. (China) and Hubei Univ. of Economics (China); L. Mao, Huazhong Univ. of Science and Technology (China); W. Wang, X. Xie, Q. Qin, Wuhan Univ. (China)</td>
</tr>
<tr>
<td>0V</td>
<td>A utility oriented radio resource management algorithm for heterogenous network</td>
<td>X. Wang, Y. Dong, Z. Huang, Huazhong Univ. of Science and Technology (China)</td>
</tr>
<tr>
<td>0W</td>
<td>Cascade connection serial parallel hybrid acquisition synchronization method for DS-FHSS in air-ground data link</td>
<td>F. Wang, D. Zhou, Air Force Engineering Univ. (China)</td>
</tr>
<tr>
<td>0X</td>
<td>Bluetooth-based wireless sensor networks</td>
<td>K. You, Beijing Union Univ. (China); R. Q. Liu, Lucent Technologies Co., Ltd. (China)</td>
</tr>
<tr>
<td>0Y</td>
<td>Piecewise linear control allocation for flying wing UAV</td>
<td>P. Wang, Z. Zhou, Northwestern Polytechnical Univ. (China)</td>
</tr>
<tr>
<td>0Z</td>
<td>Neural networks filter for hybrid navigation of formation flying spacecraft in deep space</td>
<td>H. Li, Q. Zhang, N. Zhang, Harbin Institute of Technology (China)</td>
</tr>
<tr>
<td>10</td>
<td>UNB modulation in high speed space communications</td>
<td>L. Wu, Southeast Univ. (China)</td>
</tr>
</tbody>
</table>
Conformance testing to space communication network [6795-36]
L. Xie, J. Wei, G. Zhu, Huazhong Univ. of Science and Technology (China)

Pseudo-random dynamic address configuration (PRDAC) algorithm for mobile ad hoc networks [6795-37]
S. Wu, X. Tan, Harbin Institute of Technology (China)

Advanced routing in interplanetary backbone network [6795-38]
G. Xu, M. Sheng, C. Wu, Xidian Univ. (China)

A lightweight secure routing algorithm for ad hoc networks with free-space optics [6795-39]
Z. Xu, Northwestern Polytechnical Univ. (China) and McGill Univ. (Canada); G. Dai, G. Zhang, Northwestern Polytechnical Univ. (China); X. Liu, McGill Univ. (Canada); D. Yang, Northwestern Polytechnical Univ. (China)

On the approximate model of scattering radiance for cloudless sky [6795-40]
C. Yang, J. Wu, Y. Han, X. He, Univ. of Electronic Science and Technology of China (China); J. Leng, China Academy of Engineering Physics (China)

Channel aware HARQ scheme based on LDPC codes for land mobile satellite communication system [6795-41]
Y. Yang, Huazhong Univ. of Science and Technology (China); G. Zhu, Wuhan National Lab. of Optoelectronics (China); D. Wang, L. Wu, Huazhong Univ. of Science and Technology (China)

Doppler shift estimation in DS/SS receiver using correlation-peak waveform fitting [6795-42]
T. Yao, W. Zhao, Q. Zhang, Y. Kou, Beijing Univ. of Aeronautics and Astronautics (China)

Feature extraction algorithm for space targets based on fractal theory [6795-43]
B. Tian, J. Yuan, X. Yue, X. Ning, Northwestern Polytechnical Univ. (China)

Study on image compression coding based on SPIHT in the free space laser communication [6795-44]
J. Zang, Changchun Univ. of Science and Technology (China); X. Zhai, F. Sun, Changchun Univ. of Science and Technology (China) and Armor Technique Institute of PLA (China); Y. Piao, X. Yan, F. Yin, Changchun Univ. of Science and Technology (China)

Application of IP multicast of network speech in satellite T&T&C ground station [6795-45]
T. Zhang, L. Zhou, Y. Gui, W. Tie, INMARSAT Beijing T&T&C Station (China)

Modeling ad hoc network based on 802.11 DCF by queuing network analyzer [6795-46]
W. Zhang, Z. Zhang, Harbin Institute of Technology (China)

Design of on-board Bluetooth wireless network system based on fault-tolerant technology [6795-47]
Z. You, X. Zhang, S. Yu, H. Tian, Tsinghua Univ. (China)

Nonlinear geometric feature equalizers based on minimum bit error rate criterion for EBPSK communications [6795-48]
R. Zhu, L. Wu, Southeast Univ. (China)
<table>
<thead>
<tr>
<th>Session 2</th>
<th>Spacecraft Payload</th>
</tr>
</thead>
</table>
| 6795 1E   | Resource planning and scheduling of payload for satellite with particle swarm optimization [6795-49]  
J. Li, C. Wang, Huazhong Univ. of Science and Technology (China) |
| 6795 1F   | An integrated image fusion method based on multi-resolution analysis and directional gradient [6795-50]  
S. Peng, Y. Huang, Huazhong Univ. of Science and Technology (China) |
| 6795 1G   | Path loss characteristics for UWB signal long-distance transmission [6795-51]  
Y. Wang, Q. Zhang, N. Zhang, Harbin Institute of Technology (China); J. Zhang, Univ. of Bedfordshire (United Kingdom) |
| 6795 1H   | Ricker wavelet LS-SVM and its parameters setting for seismic prospecting signals denoising [6795-52]  
X. Deng, Y. Li, B. Yang, Jilin Univ. (China) |
| 6795 1I   | Research on power-law acoustic transient signal detection based on wavelet transform [6795-53]  
J. Han, R. Yang, W. Wang, Naval Aeronautical Engineering Institute (China) |
| 6795 1J   | Feedback-based multipath routing for mobile ad hoc networks [6795-54]  
Y. Ning, Huazhong Univ. of Science and Technology (China); G. Zhu, Huazhong Univ. of Science and Technology (China) and Wuhan National Lab. for Optoelectronics (China); G. Su, L. Tan, Huazhong Univ. of Science and Technology (China) |
| 6795 1K   | Analysis of coupled-cavity slow-wave structures for space TWT [6795-55]  
Z. Li, G. Lv, S. Deng, Hefei Univ. of Technology (China); Y. Huang, Anhui Univ. (China); J. Yang, G. Deng, Hefei Univ. of Technology (China) |
| 6795 1L   | The programming realization of image compression algorithm in satellite data compression equipment [6795-56]  
J. Wang, W. Luo, Q. Lu, X. Xiao, National Univ. of Defense Technology (China) |
| 6795 1M   | A measurement study of peer-to-peer applications [6795-57]  
B. Liu, Z. Li, H. Tu, Huazhong Univ. of Science and Technology (China) |
| 6795 1N   | A background rejection method based on star-point matching in star-background image [6795-58]  
Z. Liu, D. Zhao, Z. Jiang, Beihang Univ. (China) |
| 6795 1O   | Visualization of large scale geologically related data in virtual 3D scenes with OpenGL [6795-59]  
D. Seng, Zhejiang Water Conservancy and Hydropower College (China) and Univ. of Science and Technology Beijing (China); X. Liang, H. Wang, G. Yue, Zhejiang Water Conservancy and Hydropower College (China) |
| 6795 1P   | Methods of RVD object pose estimation and experiments [6795-60]  
Y. Shang, Y. He, W. Wang, Q. Yu, National Univ. of Defense Technology (China) |
### SESSION 3 EARTH OBSERVATION AND NAVIGATION

<table>
<thead>
<tr>
<th>6795 1Q</th>
<th>The design of highly reliable on-board data handling software for micro-satellite [6795-61]</th>
</tr>
</thead>
<tbody>
<tr>
<td>P. Wang, Xihua Univ. (China) and Shanghai Institute of Micro-system and Information Technology (China)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6795 1R</th>
<th>Feature extraction of attributed scattering centers on high resolution SAR imagery [6795-62]</th>
</tr>
</thead>
<tbody>
<tr>
<td>J. Yang, The Academy of Equipment Command and Technology (China); D. Yan, China Remote Sensing Satellite Ground Station (China) and Institute of Automation (China); C. Wang, H. Zhang, China Remote Sensing Satellite Ground Station (China)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6795 1S</th>
<th>Scannerless range imaging laser radar for on-orbit surveillance of space objects [6795-63]</th>
</tr>
</thead>
<tbody>
<tr>
<td>W. Yang, X. Du, J. Zhao, The Academy of Equipment Command and Technology (China)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6795 1T</th>
<th>A study of carrier phase recovery and tracking for high dynamic GPS signal [6795-64]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y. Yang, Z. Zhong, Beijing Jiaotong Univ. (China)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6795 1U</th>
<th>Research of signal tracking technology in FSO communication [6795-65]</th>
</tr>
</thead>
<tbody>
<tr>
<td>K. Peng, T. Deng, Y. Lu, G. Lu, Huazhong Univ. of Science and Technology (China)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6795 1V</th>
<th>A real-time publication system of massive marine remote sensing data [6795-66]</th>
</tr>
</thead>
<tbody>
<tr>
<td>J. Huang, R. Liu, N. Liu, C. Jing, N. Wang, Zhejiang Univ. (China)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6795 1W</th>
<th>Simulation of precise orbit determination of COSMIC from onboard GPS zero-difference phase data with kinematic method [6795-67]</th>
</tr>
</thead>
<tbody>
<tr>
<td>J. Guo, National Astronomical Observatories (China); C. Hwang, Z. Tseng, National Chiao Tung Univ. (China); X. Chang, Chinese Academy of Surveying and Mapping (China)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6795 1X</th>
<th>A digital mileage calculating program for electronic toll collection by using vehicle positioning system [6795-68]</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.-C. Tao, Tamkang Univ. (Taiwan); C.-J. Tsai, Telexon Technology Co. Ltd. (Taiwan)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6795 1Y</th>
<th>A single-channel SAR-GMTI algorithm based on sub-apertures and FrFT [6795-69]</th>
</tr>
</thead>
<tbody>
<tr>
<td>S. Liu, Y. Yuan, J. Wei, S. Mao, Beihang Univ. (China)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6795 1Z</th>
<th>Area information confrontation system based on NSV [6795-70]</th>
</tr>
</thead>
<tbody>
<tr>
<td>G. Wang, J. He, W. Li, J. Wang, S. Li, Air Force Engineering Univ. (China)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6795 20</th>
<th>D-InSAR to inspect the active fault of Kunlun Mountains on Qinghai-Tibet Plateau [6795-71]</th>
</tr>
</thead>
<tbody>
<tr>
<td>F. Miao, C. Ye, X. Bi, Chengdu Univ. of Technology (China); Z. Wu, Institute of Geomechanics, Chinese Academy of Geological Science (China); X. Kong, R. Liu, M. Yan, Chengdu Univ. of Technology (China)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6795 21</th>
<th>Expanding the usage of the star sensor in spacecraft [6795-72]</th>
</tr>
</thead>
<tbody>
<tr>
<td>H. Zhang, H. Sang, Huazhong Univ. of Science and Technology (China); X. Shen, Xi’an Microelectronics Technology Institute (China)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6795 22</th>
<th>Modular simulation architecture of spaceborne/airborne hybrid bi-static SAR [6795-73]</th>
</tr>
</thead>
<tbody>
<tr>
<td>P. Zhou, Univ. of Electronic Science and Technology (China) and Univ. of Petroleum (China); Y. Pi, Univ. of Electronic Science and Technology (China)</td>
<td></td>
</tr>
<tr>
<td>Page</td>
<td>Title</td>
</tr>
<tr>
<td>------</td>
<td>----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>6795 23</td>
<td>Bistatic spaceborne SAR data processing based on LBF [6795-74]</td>
</tr>
<tr>
<td>6795 24</td>
<td>Modeling and predicting the extents of moving spatial objects [6795-75]</td>
</tr>
<tr>
<td>6795 25</td>
<td>A simplified method for electromagnetic scattering from periodic surface of lossy media [6795-76]</td>
</tr>
<tr>
<td>6795 26</td>
<td>Geospatial data and services semantic share based on ebXML registry [6795-77]</td>
</tr>
<tr>
<td>6795 27</td>
<td>Study on image motion compensation technology for Chinese geostationary meteorological satellite remote sensing [6795-78]</td>
</tr>
<tr>
<td>6795 29</td>
<td>A new algorithm of gravity matching aided navigation [6795-80]</td>
</tr>
<tr>
<td>6795 2A</td>
<td>Organization and management of mass remotely sensed data for content-based retrieval [6795-81]</td>
</tr>
<tr>
<td>6795 2B</td>
<td>Study on spacecraft motion compensation technology for Chinese geostationary meteorological satellite remote sensing image [6795-82]</td>
</tr>
<tr>
<td>6795 2C</td>
<td>A methodology for fusion LIDAR and digital images [6795-83]</td>
</tr>
<tr>
<td>6795 2D</td>
<td>An adaptive algorithm of relative radiometric normalization based on feature corner [6795-84]</td>
</tr>
<tr>
<td>6795 2E</td>
<td>Research on the method of sensor grid modeling based on graph theory [6795-85]</td>
</tr>
<tr>
<td>6795 2F</td>
<td>A new GMTI detector based on spaceborne single channel SAR [6795-86]</td>
</tr>
<tr>
<td>6795 2G</td>
<td>Characters and development of laser ranging technology on small-satellite relative position measurement [6795-87]</td>
</tr>
</tbody>
</table>
| 6795 2H | 2D torus inter-chip network on EOPCB for locally intensive communication [6795-88]  
Y. Feng, F. Luo, J. Yuan, Huazhong Univ. of Science and Technology (China) |
| 6795 2I | Method for moving point target detection in image sequences based on directional cumulation [6795-89]  
S. Gao, P. Shui, Xidian Univ. (China) |
| 6795 2J | Study on landmark-based qualitative positional representation [6795-90]  
Z. Gao, Peking Univ. (China); X. Wang, Bureau of Land and Resources of Beijing Municipality (China); G. Zeng, Bureau of Land Resources and Housing Management of Guangzhou Municipality (China) |
| 6795 2K | A new approach to geomagnetic matching navigation [6795-91]  
Z. Ge, J. Zhou, Northwestern Polytechnical Univ. (China) |
| 6795 2L | Research and evaluation of Beijing-1 image fusion based on Imagesharp algorithm [6795-92]  
J. Gong, Wuhan Univ. (China) and State Key Lab. of Resources and Environment Information System (China); X. Yang, D. Han, D. Zhang, State Key Lab. of Resources and Environment Information System (China); H. Jin, Z. Gao, Wuhan Univ. (China) and State Key Lab. of Resources and Environment Information System (China) |
| 6795 2M | Feature separability analysis for SAR ATR using data description method [6795-93]  
W. Guo, X. Du, W. Hu, W. Yu, National Univ. of Defense Technology (China) |
| 6795 2N | On the performance of multicarrier direct sequence spread spectrum with band-limited Gaussian interference and multipath fading [6795-94]  
Z. Luo, B. Ye, L. Bao, Huazhong Univ. of Science and Technology (China) |
| 6795 2O | Propagation studying in cat-eye system for the beam affected by atmospheric turbulence [6795-95]  
Y. Han, J. Wu, C. Yang, W. He, G. Xu, Univ. of Electronic Science and Technology (China) |
| 6795 2P | Ranging error analysis in LFM radar under influence of Doppler frequency [6795-96]  
H. Hu, Northwestern Polytechnical Univ. (China); R. Ni, H. Deng, D. Xu, Xi’an Satellite Control Ctr. (China) |

**Part Two**

| 6795 2Q | The semantic description for Earth observation task of satellite [6795-97]  
S. Li, J. Yuan, J. Luo, Q. Wang, Northwestern Polytechnical Univ. (China) |
| 6795 2R | Analysis of intrasystem and intersystem interference of navigation systems with interplex modulation in the L1 band [6795-98]  
X. Huang, Huazhong Univ. of Science and Technology (China) and Univ. of Guang Xi (China); X. Hu, Z. Tang, Huazhong Univ. of Science and Technology (China) |
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td><strong>The study of high precision assistant navigation system with micro-magnetic sensors</strong> [6795-99]</td>
<td>X. Huang, Beijing Univ. of Aeronautics and Astronautics (China) and Nanjing Univ. of Science and Technology (China); J. Fang, L. Guo, Y. Jiang, Beijing Univ. of Aeronautics and Astronautics (China)</td>
</tr>
<tr>
<td>2</td>
<td><strong>Research on automatic generalization methods of geographical spatial data based on semantic scale</strong> [6795-100]</td>
<td>Y. Huang, Institute of Remote Sensing Applications (China); Z. Zhao, Jiujiang Univ. (China); M. Wu, Ludong Univ. (China); X. Wu, Institute of Remote Sensing Applications (China)</td>
</tr>
<tr>
<td>2</td>
<td><strong>Quasi-dynamic electromagnetic scattering characteristic simulation and analysis of space satellite targets</strong> [6795-101]</td>
<td>C. Huo, Z. Xiao, H. Ren, H. Yin, China Aerospace Science and Industry Corp. (China)</td>
</tr>
<tr>
<td>2</td>
<td><strong>Missile geo-location using missile-borne SAR</strong> [6795-102]</td>
<td>Y. L. Qin, B. Deng, H. Q. Wang, X. Li, National Univ. of Defense Technology (China)</td>
</tr>
<tr>
<td>2</td>
<td><strong>Image's concentric circle character matching based on lateral inhibition mechanism and application on scene matching</strong> [6795-103]</td>
<td>F. Zi, Y. Li, K. Zhang, Northwestern Polytechnical Univ. (China); D. Zhao, Northwestern Polytechnical Univ. (China) and China Aerospace Science and Industry Corp. (China)</td>
</tr>
<tr>
<td>2</td>
<td><strong>Autonomous navigation based on x-ray pulsar timing</strong> [6795-104]</td>
<td>D. La, Urumqi Observatory, NAO-CAS (China) and Graduate Univ. of Chinese Academy of Sciences (China); N. Wang, Urumqi Observatory, NAO-CAS (China)</td>
</tr>
<tr>
<td>2</td>
<td><strong>Study on object recognition for satellite image</strong> [6795-105]</td>
<td>X. Chen, S. Yu, Z. Ma, Huazhong Univ. of Science and Technology (China)</td>
</tr>
<tr>
<td>2</td>
<td><strong>An algorithm to generate DEM in rural areas from Lidar data</strong> [6795-106]</td>
<td>X. Lai, Y. Wan, Wuhan Univ. (China)</td>
</tr>
<tr>
<td>2</td>
<td><strong>The algebraic solution of the double-system navigation equations</strong> [6795-107]</td>
<td>H. Li, X. Zhang, Beihang Univ. (China)</td>
</tr>
<tr>
<td>2</td>
<td><strong>Robot vision navigation based on a fly's compound eyes</strong> [6795-108]</td>
<td>J. Li, K. Zhang, Y. Li, Northwestern Polytechnical Univ. (China)</td>
</tr>
<tr>
<td>2</td>
<td><strong>Extended target detection based on generalized compound model in high resolution SAR images</strong> [6795-109]</td>
<td>J. Li, J. Wang, Univ. of Electronic Science and Technology of China (China)</td>
</tr>
<tr>
<td>2</td>
<td><strong>Information war countermeasures based on near space vehicles</strong> [6795-110]</td>
<td>S. Li, T. Xu, G. Wang, J. Wang, W. Li, Air Force Engineering Univ. (China)</td>
</tr>
<tr>
<td>2</td>
<td><strong>Measuring error analysis of space Brillouin scattering based on edge detecting technology</strong> [6795-111]</td>
<td>H. Lin, T. Dong, Y. Ma, L. Jing, M. Liang, Huazhong Univ. of Science and Technology (China)</td>
</tr>
</tbody>
</table>
| 6795 35 | Height corrected location algorithm analysis for emitter on Earth [6795-112]  
|         | T. Li, X. Cai, S. Li, G. Wang, X. Zhao, Naval Aeronautical Engineering Institute (China) |
| 6795 36 | A new method of cluster optimization design for scanned pattern interferometric radar [6795-113]  
|         | T. Li, J. Zhu, D. Liang, National Univ. of Defense Technology (China) |
| 6795 37 | A new fault detection and identification method for integrated navigation systems [6795-114]  
|         | K. Liang, National Astronomical Observatories (China) and Graduate Univ. of Chinese Academy of Sciences (China); B. Wang, China Ctr. for Information Industry Development (China); H. Shi, National Astronomical Observatories (China) and Graduate Univ. of Chinese Academy of Sciences (China) |
| 6795 38 | Improved frequency and time of arrival estimation methods in search and rescue system based on MEO satellites [6795-115]  
|         | M. Lin, R. Li, J. Li, China Academy of Space Technology (China) |
| 6795 39 | Research on positioning mode of LADAR aided navigation system over plain area [6795-116]  
|         | Y. Lin, L. Yan, Peking Univ. (China); Q. Tong, Peking Univ. (China) and Institute of Remote Sensing Applications (China) |
| 6795 3A | Fast image matching for localization in deep-sea based on the simplified SIFT (scale invariant feature transform) algorithm [6795-117]  
|         | L. Liu, Huazhong Univ. of Science and Technology (China) and NanHua Univ. (China); F. Peng, Y. Tian, Y. Xu, K. Zhao, Huazhong Univ. of Science and Technology (China) |
| 6795 3B | Study of quick orbital transfer technology for improving viability of remote sensing satellites [6795-118]  
|         | Q. Lu, Z. Wang, Northwestern Polytechnical Univ. (China) |
| 6795 3C | Landform skeleton reconstruction from unorganized points [6795-119]  
|         | M. Luo, Institute of Mountain Hazards and Environment (China), Nanjing Normal Univ. (China), and Graduate Univ. of Chinese Academy of Sciences (China); G. Tang, X. Liu, L. Bian, Nanjing Normal Univ. (China) |
| 6795 3D | Pure rotational Raman lidar based on wavelength division multiplexing technique for temperature profiling of the troposphere [6795-120]  
|         | J. Mao, Xi’an Univ. of Technology (China) and The Second Northwest Univ. for Nationality (China); D. Hua, L. Hu, F. Gao, M. Wu, Xi’an Univ. of Technology (China) |
| 6795 3E | Evaluating operational effectiveness of electro-optical imaging reconnaissance satellite [6795-121]  
|         | X. Ning, J. Yuan, X. Yue, Northwestern Polytechnical Univ. (China); B. Tian, Xi’an Institute of Communication (China) |
| 6795 3F | The algorithm and simulation for satellite navigation using x-ray pulsars [6795-122]  
|         | L. Qiao, J. Liu, G. Zheng, Nanjing Univ. of Aeronautics and Astronautics (China); L. He, Shanghai Aerospace Control Engineering Institute (China); Z. Xiong, Nanjing Univ. of Aeronautics and Astronautics (China) |
ICA based blind multi-user detection method in CDMA navigation system [6795-123]
J. Shang, Z. Zhao, X. Wang, Hangzhou Dianzi Univ. (China)

Confidence interval for space debris population estimation based on radar beam fence [6795-124]
Z. Song, W. Hu, Y. Tao, W. Yu, National Univ. of Defense Technology (China)

A new subaperture chirp scaling imaging algorithm for spaceborne spotlight SAR [6795-125]
J. Sun, Beijing Univ. (China); Z. Yang, W. Hong, Institute of Electronics (China); S. Mao, Beijing Univ. (China)

LS-SVM based dim and small infrared target dualband fusion detection [6795-126]
Y. Sun, Yangtze Univ. (China) and Huazhong Univ. of Science and Technology (China); S. Li, Air Force Radar Academy (China); J. Tian, J. Liu, Huazhong Univ. of Science and Technology (China)

Autonomous navigation algorithm for spacecrafts based on dual quaternion [6795-127]
K. Li, J. Yuan, X. Yue, Q. Fang, Northwestern Polytechnical Univ. (China)

A method of land use/land cover change detection from remote sensing image based on support vector machines [6795-128]
J. Tang, Peking Univ. (China); Y. Hu, Hebei Normal Univ. (China); X. Chen, Peking Univ. (China); G. Li, Hebei Normal Univ. (China)

A novel analysis on code tracking performance of navigation receivers [6795-129]
Z. Tang, X. Hu, X. Huang, W. Hu, Huazhong Univ. of Science and Technology (China)

A study of instrument landing system on decimeter-wave [6795-130]
L. Shi, Northwestern Polytechnical Univ. (China) and Air Force Engineering Univ. (China); Y. Wang, Northwestern Polytechnical Univ. (China); D. Wu, X. Zhao, Air Force Engineering Univ. (China)

Fast reconstruction of instantaneous ISAR image based on FTFDS [6795-131]
Z. Li, F. He, J. Zhu, D. Liang, National Univ. of Defense Technology (China)

Automatic identification of earthquake-caused building harm based on image fusion [6795-132]
H. Wang, H. Du, M. Chen, A. Cai, Wuhan Institute of Technology (China)

Strapdown relative inertial navigation system design for a lunar rover [6795-133]
L. Wang, X. Zhan, Y. Zhang, H. Xu, Shanghai Jiao Tong Univ. (China)

Studies on ship discrimination in polarimetric SAR images [6795-134]
W. Wang, J. Wang, W. Chang, Beihang Univ. (China)

Scan mirror motion compensation technology for high accuracy satellite remote sensor [6795-135]
Z. Wang, S. Chen, Northwestern Polytechnical Univ. (China); Q. Li, Shanghai Academy of Space Flight Technology (China)
Study on the model for wheat yield based on the electromagnetism information sources of ground objects and environments [6795-136]
Y. Tian, X. Zhan, Huazhong Univ. of Science and Technology (China)

A new multi-channel SAR-GMTI algorithm based on frequency STAP and FrFT [6795-137]
J. Wei, Y. Yuan, J. Sun, S. Liu, S. Mao, Beijing Univ. of Aeronautics and Astronautics (China)

Research on Fourier-Mellin transform for image matching aided navigation system [6795-138]
H. Wu, L. Yan, Wuhan Univ. (China)

A new large-scale terrain real-time simplification algorithm based on Delaunay triangulation [6795-139]
X. Li, H. Wu, H. Xue, Northwestern Polytechnical Univ. (China)

Design of integrated electronic chart pocket navigator system (PNS) and application for passage ship auto-track [6795-140]
H. Sui, J. Xiao, Wuhan Univ. (China); A. Zhang, Tianjin Maritime Safety Administration (China); J. Luo, Fujian Surveying and Mapping Institute (China)

Ship formation recognition based on information fusion of spaceborne IMINT and ELINT [6795-141]
C. Zhang, H. Yang, W. Hu, W. Yu, National Univ. of Defense Technology (China)

The synchronization method for distributed small satellite SAR [6795-142]
L. Xing, X. Gong, W. Qiu, Z. Sun, Harbin Institute of Technology (China)

Technology progress in microelectronics promote on-board imaging of spaceborne SAR [6795-143]
X. Xu, Institute of Microelectronics (China)

Classification based on the EMD of hyperspectral curve [6795-144]
Y. Xu, K. Hu, Huazhong Univ. of Science and Technology (China); J. Han, Shandong Univ. of Finance (China)

Ionosphere-isolating method for ground-based augmentation system [6795-145]
R. Xue, J. Zhang, B. Du, Beihang Univ. (China)

Realization of TV guidance gyro stabilized platform and research of control algorithm [6795-146]
P. Yang, Q. Li, Southeast Univ. (China)

Binocular vision-based relative position and attitude measuring method between spacecrafts [6795-147]
B. Ye, Y. Wang, Q. Wang, Huazhong Univ. of Science and Technology (China)

Navigation studies based on the ubiquitous positioning technologies [6795-148]
L. Ye, W. Mi, D. Wang, Shanghai GALILEO Industries Ltd. (China)
Approach of virtual observations generation of a multi-reference GPS station network [6795-149]
G. Yu, Southeast Univ. (China)

A knowledge-based segmentation technology for remote sensing optical images [6795-150]
X. Yuan, H. Yang, National Univ. of Defense Technology (China)

Development of flood routing simulation system of digital Qingjiang based on integrated spatial information technology [6795-151]
Y. Yuan, Y. Zhou, Y. Zhu, Wuhan Univ. of Technology (China); X. Yuan, Huazhong Univ. of Science and Technology (China); N. R. Sælthun, Univ. of Oslo (Norway)

An image alignment based framework for ground vehicle tracking from an air-borne platform [6795-152]
H. Zhang, F. Yuan, Beihang Univ. (China)

Research on optical-odometer application in vehicle navigation system [6795-153]
J. Zhang, X. Sun, S. Li, Northwestern Polytechnical Univ. (China)

A quick route planning algorithm in vehicle navigation system [6795-154]
Y. Song, China Univ. of Mining and Technology (China) and Henan Province Land and Resources Bureau (China); Y. Zhao, J. Zhang, China Univ. of Mining and Technology (China)

Design and realization of the baseband processor in satellite navigation and positioning receiver [6795-155]
D. Zhang, X. Hu, C. Li, Huazhong Univ. of Science and Technology (China)

A study on the performance of partial correlation method under noise environment [6795-156]
L. Zhang, Q. Zhang, China Academy of Space Technology (China)

Landscape dynamics analysis of the Yongding River watershed (Mentougou section) by multi-temporal landsat imagery [6795-157]
Y. Zhang, Xinjiang Univ. (China) and Tsinghua Univ. (China); C. Yu, Tsinghua Univ. (China); J. Qi, Michigan State Univ. (USA); Z. Zhang, Peking Univ. (China); Q. Shi, Xinjiang Univ. (China)

Hyperspectral RS image classification based on fractal and rough set [6795-158]
Y. Zhan, China Univ. of Geoscience (China) and Wuhan Univ. of Technology (China); G. Hu, China Univ. of Geoscience (China); Y. Yuan, Wuhan Univ. of Technology (China)

Clutter mitigation for space based radar by appropriate choices of array aspect ratio and radar PRF [6795-159]
Z. Zhang, L. Liu, W. Hu, W. Yu, National Univ. of Defense Technology (China)

A high performance spatial modeling and simulation environment based on grid [6795-160]
Z. Zhang, Q. Li, X. Mao, Peking Univ. (China)
Design and implementation of distributed virtual geographic environment system based on MAS [6795-161]
J. Zhu, Southwest Jiaotong Univ. (China); K. Zhang, The Institute of Geology Surveying (China); X. Yang, Southwest Jiaotong Univ. (China)

SESSION 4 DEEP-SPACE EXPLORATION AND COMMUNICATION

Error floor behavior study of LDPC codes for concatenated codes design [6795-162]
W. Chen, L. Yin, J. Lu, Tsinghua Univ. (China)

Interference on the deep space earth station systems from EESS satellites operating at the 8025–8400 MHz band [6795-163]
S. Hu, Guizhou Normal Univ. (China) and Ctr. for Space Science and Applied Research (China); X. Meng, Ctr. for Space Science and Applied Research (China)

Software simulation platform for housekeeping of satellite [6795-164]
M. Li, China Univ. of Mining and Technology (China) and Beijing Shen Zhou Hang Tian Software Technology Co. Ltd. (China); M. Yang, D. Liu, P. Li, Beijing Shen Zhou Hang Tian Software Technology Co. Ltd. (China)

Study on implementing delay tolerant networking for deep-space communication [6795-165]
L. Li, H. Zhang, G. Dai, Northwestern Polytechnical Univ. (China)

CVN software correlator applications in deep-space exploration [6795-166]
W. Zheng, F. Shu, D. Zhang, Shanghai Astronomical Observatory (China)

Feasibility analysis on entanglement distribution in quantum repeater-based space quantum communication [6795-167]
Y. Liu, Y. Li, F. Huang, Huazhong Univ. of Science and Technology (China)

Equilibrium points in Earth-Moon system for continuous communication with far-side station and lunar orbiter [6795-168]
H. Li, Q. Zhang, N. Zhang, Harbin Institute of Technology (China)

Robust 2D fringe search algorithm for radio interferometry of very weak downlink signals of deep space probes [6795-169]
F. Shu, X. Zhang, Shanghai Astronomical Observatory (China)

Mobility performance analysis of an innovation lunar rover with diameter-variable wheel [6795-170]
G. Sun, F. Gao, P. Sun, G. Xu, Beijing Univ. of Aeronautics and Astronautics (China)

Design of on-board parallel computer on nano-satellite [6795-171]
Z. You, H. Tian, S. Yu, L. Meng, Tsinghua Univ. (China)

Lunar soft landing rapid trajectory optimization using direct collocation method and nonlinear programming [6795-172]
L. Tu, J. Yuan, J. Luo, X. Ning, Northwestern Polytechnical Univ. (China); R. Zhou, Hongdu Aviation Industry Group (China)
Yesterday, today, and tomorrow of RAIM technology’s development [6795-173]
M. Wang, S. Yong, F. Wang, National Univ. of Defense Technology (China)

3D optical interconnect mesh network for on-board parallel multiprocessor system based on EOPCB [6795-174]
F. Luo, M. Cao, X. Zhou, J. Xu, Z. Luo, J. Yuan, Huazhong Univ. of Science and Technology (China) and Wuhan National Lab. for Optoelectronics (China); L. Zong, Y. Feng, C. Chen, C. Zhang, Huazhong Univ. of Science and Technology (China)

Primary research on simulate proving ground design of lunar surface [6795-175]
F. Gao, Z. Wang, Beihang Univ. (China)

Research on techniques for computer three-dimensional simulation of satellites and night sky [6795-176]
G. Yan, H. Hu, North China Electric Power Univ. (China)

A carrier tracking technique based on a convex combination of two adaptive filters for EDL [6795-177]
S. Hu, X. Yao, N. Zhao, Ctr. for Space Science and Applied Research (China)

Spacecraft’s automatic landing control based on online tracing identification method of neural network [6795-178]
J. Zhang, J. An, Northwestern Polytechnical Univ. (China)

A ROI-based deep space image compression algorithm [6795-179]
C. Zhao, Beijing Institute of Technology (China) and Zhejiang Normal Univ. (China); C. Shi, P. He, Beijing Institute of Technology (China); Y. Zhang, Hengyan Radio Television Univ. (China)

A blind watermarking algorithm based on HVS applied for covert communication [6795-180]
F. Wei, Huazhong Univ. of Science and Technology (China) and Wuhan Institute of Technology (China); J. Liu, H. Cao, Huazhong Univ. of Science and Technology (China); J. Yang, Huazhong Univ. of Science and Technology (China) and Wuhan Institute of Technology (China)

A modification to GLRT-type SSME data rate estimation algorithm for deep space communication [6795-181]
N. Zhao, Ctr. for Space Science and Applied Research (China) and Graduate Univ. of Chinese Academy of Sciences (China); X. Meng, S. Hu, Ctr. for Space Science and Applied Research (China)

Reverse analysis and trustworthy control for operating system security [6795-182]
W. Pan, W. Li, G. Wang, J. Du, Northwestern Polytechnical Univ. (China)

Electromagnetic pulse bombs’ defense [6795-183]
B. Chen, Y. Wang, J. Li, J. Wang, Naval Univ. of Engineering (China)
Simulation and research on security enhancement policies of space network protocols [6795-184]
H. Ma, Z. Hong, D. Zhu, G. Zheng, Institute of Software (China)

LMI-based H2/H∞ terminal proximity guidance algorithm for autonomous rendezvous and docking [6795-185]
W. Chen, W. Jing, Harbin Institute of Technology (China)

Research on cooperative detection of UAV formation system based on multi-agent technology [6795-186]
Y. Du, Y. Jin, H. Li, Northwestern Polytechnical Univ. (China)

Application of dead-reckoning in the single-base station location and tracking method [6795-187]
R. Zhang, D. Fan, M. Xu, M. Chen, National Digital Switching System Engineering and Technological Research Ctr. (China)

Regional telecommunication satellite constellation design tradeoffs [6795-188]
Y. Zeng, X. Hu, X. Wang, Y. Wang, Huazhong Univ. of Science and Technology (China)

Robust control of hypersonic aircraft [6795-189]
Y. Fan, J. Yang, Y. Zhang, Northwestern Polytechnical Univ. (China)

A runway tracking model using Zernike moments and particle filters for a landing unmanned aerial vehicle based on vision [6795-190]
X. Fan, H. Wang, Univ. for Information Engineering of People’s Liberation Army (China)

Survivability performance evaluation for satellite communication network based on Walker Constellation [6795-191]
Y. He, H. Zhao, The Academy of Equipment Command and Technology (China)

Part Three

Security issues in satellite networks [6795-192]
B. Jiang, Huazhong Univ. of Science and Technology (China) and Hubei Univ. (China); X. Hu, Huazhong Univ. of Science and Technology (China)

Transmission of optical signal in the plasma sheath of reentry vehicle [6795-193]
H. Ji, Y. Ma, C. Ma, L. Jing, H. Wang, Huazhong Univ. of Science and Technology (China) and Wuhan National Lab. for Optoelectronics (China)

A framework for space object surveillance based on the integration of space and Earth platforms [6795-194]
P. Jin, Univ. of Science and Technology of China (China); Z. Wu, Beijing Institute of Remote Sensing Information (China); S. Wan, Univ. of Science and Technology of China (China)

Oil spill monitoring using MODIS data [6795-195]
Y. Li, Y. Liu, L. Ma, X. Li, Dalian Maritime Univ. (China)
A fuzzy call admission control scheme in wireless networks [6795-196]
Y. Ma, S. Gong, Naval Univ. of Engineering (China); X. Hu, Y. Zhang, Huazhong Univ. of Science and Technology (China)

Modeling and simulation of micro-motion in the complex warhead target [6795-197]
C. Ning, Z. Xiao, C. Wang, H. Yin, National Electromagnetic Scattering Lab. (China)

Research on attacking strategy of many same missiles based on spatial transportation problem [6795-198]
H. Li, X. Xiong, Y. Du, Northwestern Polytechnical Univ. (China)

Space target trace acquisition method of CCD serial images based on background elimination [6795-199]
T. Shen, Tsinghua Univ. (China); C. Zhang, X. Wang, Naval Aeronautical Engineering Institute (China)

Development and visualization of the warning maps in the airborne multi-angle power line inspection system [6795-200]
P. Wang, J. Liu, China Agricultural Univ. (China); G. Yan, Beijing Normal Univ. (China); K. Yan, W. Sun, China Agricultural Univ. (China)

A threat coefficient method for extended air defense system analysis [6795-201]
Z. Yin, N. Cui, Harbin Institute of Technology (China); S. Guan, Beijing Electro-Mechanical Engineering Institute (China)

Research of GPS integrity monitoring [6795-202]
X. Yu, X. Dong, B. Tang, X. Huang, ZhuangBei Institute of Technology (China)

Using genetic algorithm to solve the parameters optimization problem of space maneuver vehicle rapidly approaching sub-orbit target [6795-203]
Q. Wang, J. Yuan, Z. Zhu, Northwestern Polytechnical Univ. (China)

A new method of enhancing telecommand security: the application of GCM in TC protocol [6795-204]
L. Zhang, C. Tang, Q. Zhang, National Univ. of Defense Technology (China)

A design proposal of a certain missile tactical command system based on Beidou satellite communication and GPS positioning techniques [6795-205]
J. Ma, Y. Hao, J. Miao, J. Zhang, Ordnance Engineering College (China)

An integration of GIS and virtual reality for visualization of large irrigated area spatial information [6795-206]
C. Wang, Q. Jiang, L. Li, Huazhong Univ. of Science and Technology (China)

The design and implementation of geo-spatial database updating system based on digital map generalization [6795-207]
R. Zhao, J. Chen, D. Wang, Y. Shang, National Geomatics Ctr. of China (China); T. Ai, Wuhan Univ. (China)
Azimuth estimate of ship with MUSIC algorithm [6795-208]
L. Shan, N. Jin, China Jiliang Univ. (China); L. Chen, Southeast Univ. (China)

Spatial aggregation query in dynamic geosensor networks [6795-209]
B. Yi, D. Feng, S. Xiao, E. Zhao, Central China Normal Univ. (China)

A general stochastic regional movement model for hierarchical mobile IP and mobile satellite communication [6795-210]
L. Bao, J. Wei, Z. Luo, Huazhong Univ. of Science and Technology (China)

A research on SLAM aided INS/GPS navigation system [6795-211]
M. Cao, P. Cui, Harbin Institute of Technology (China)

A study on the scale of LU/LC status expression and data mining based on multi-grids [6795-212]
Y. Shan, Wuhan Univ. (China) and Huazhong Agriculture Univ. (China); X. Zhu, D. Du, Wuhan Univ. (China)

Study of isoplanatic angle of dual-conjugate AO system in atmospheric turbulence [6795-213]
X. Ding, J. Rong, Univ. of Electronic Science and Technology of China (China); X. Zhong, Southwest Jiaotong Univ. (China); F. Li, Univ. of Electronic Science and Technology of China (China)

A movement based two tiers paging scheme for LEO mobile satellite systems [6795-214]
Y. Dong, J. Rao, X. Wang, Huazhong Univ. of Science and Technology (China)

A new algorithm for successful ratio against command and guidance of early warning airplane [6795-215]
Y. Fu, R. Wang, Air Force Engineering Univ. (China)

Analyze and research the integrated navigation technique for GPS and pseudolite [6795-216]
G. Yuan, X. Gan, Z. Li, Harbin Engineering Univ. (China)

Bridging GPS outages using the optimal estimate to eliminate the position and velocity errors [6795-217]
Y. Gao, J. Fang, L. Cai, Beijing Univ. of Aeronautics and Astronautics (China)

A novel MAC protocol for mixed traffics in communication network in near space [6795-218]
M. Guan, Q. Guo, L. Li, Harbin Institute of Technology (China)

Application of hybrid wavelet neural network for missile fault diagnosis system [6795-219]
J. Hu, G. Li, Naval Submarine Academy (China); S. Jia, Naval Aeronautical Engineering Academy (China)

Study on reduced-dynamic orbit determination of low Earth orbiters [6795-220]
B. Han, Shandong Univ. of Technology (China)
A new FOA estimation method in SAR/GALILEO system [6795-221]
G. Liu, B. He, The Second Artillery Engineering College (China); J. Li, China Academy of
Space Technology (China)

Effect analysis of aerospace environment for the application of satellite navigation system
[6795-222]
D. Wu, J. He, C. Dai, K. Yu, Air Force Engineering Univ. (China)

A novel key distribution scheme for securing satellite IP multicast [6795-223]
Z. Huang, Q. Guo, X. Gu, Harbin Institute of Technology (China)

An improved method of continuous LOD based on fractal theory in terrain rendering
[6795-224]
L. Lin, L. Li, Huazhong Univ. of Science and Technology (China)

Study on the GPS/MM navigation method based on the vehicle kinematic model
[6795-225]
C. Li, Southeast Univ. (China) and Jiangsu Univ. (China); Q. Wang, Z. Zhu, Z. Guan,
Southeast Univ. (China)

Applying nonlinear filter to TCM-8PSK satellite data transmission system [6795-226]
J. Liu, Xi’an Jiaotong Univ. (China) and Xi’an Satellite Control Ctr. (China); J. Li, Xi’an Satellite
Control Ctr. (China); Z. F. Liu, The Fifty-Fifth Institute of Group of Electronic and Technology
(China); R. J. Shen, General Equipment Department of P.L.A. (China)

Dynamic cross-layer bandwidth allocation scheme for broadband satellite network
[6795-227]
L. Li, Q. Guo, M. Guan, M. Jia, Harbin Institute of Technology (China)

The GPS code acquisition based on pipelined FFT processor [6795-228]
W. Li, Beijing Univ. of Aeronautics and Astronautics (China); H. Zhu, Southwest China
Research Institute of Electronic Equipment (China); J. Wang, S. Li, Beijing Univ. of
Aeronautics and Astronautics (China)

GIS spatial analysis applied to soil and water conservation aided planning and design
[6795-229]
X. Li, Z. Zeng, Y. Zhang, Huazhong Univ. of Science and Technology (China)

Terrain mechanical parameters online estimation for lunar rovers [6795-230]
B. Liu, P. Cui, H. Ju, Beijing Univ. of Technology (China)

A new blind nulling algorithm for CDMA mobile satellite communication systems [6795-231]
Y. Liu, Nanjing Telecommunication Technology Institute (China); H. Wang, ICE, PLAUST
(China); Z. Wang, Jiangnan Institute of Computing Technology (China)

Uncertainty in spatial data mining [6795-232]
K. Mei, Y. Tian, F. Bian, Wuhan Univ. (China)
Spatial decision support system for tobacco enterprise based on spatial data mining

X. Mei, Hubei Univ. (China) and Institute of Remote Sensing Applications (China); J. Liu, Wuhan Univ. (China); X. Zhang, W. Cui, Institute of Remote Sensing Applications (China)

GPS based detection of pre-seismic ionospheric abnormality

Y. Meng, Z. Wang, D. E. J. Liu, Wuhan Univ. (China)

Urban spatial information services based on service-oriented grid architecture

N. Mou, L. Zhang, B. Ai, W. Liu, Shandong Univ. of Science and Technology (China) and Key Lab. of Basic Geographic Information and Digital Technology of Shandong Province (China)

A scalable key management scheme with minimizing rekey cost for secure multicast over satellite networks

J. Gao, Z. Yang, H. Xie, Huazhong Univ. of Science and Technology (China)

The setting for ground based augmentation system station

Y. Ni, Civil Aviation Univ. of China (China) and Tianjin Univ. (China); R. Liu, Civil Aviation Univ. of China (China)

Application of M-methods to satellite orbit determination

X. Pan, H. Zhou, Y. Jiao, W. Jiang, National Univ. of Defense Technology (China)

A mobile mapping system for spatial information based on DGPS/EGIS

L. Pei, Jiangxi Agricultural Univ. (China) and Southeast Univ. (China); Q. Wang, Southeast Univ. (China); J. Gu, Jiangxi Agricultural Univ. (China)

Research on GNSS receiver for spinning projectile in trajectory correction fuze

H. Xiao, Q. Shen, Beijing Institute of Technology (China); Q. Zhao, China Petroleum Pipeline Bureau (China); H. Li, Q. Wang, Beijing Institute of Technology (China)

Construction of mobile digital city based on WiMAX wireless broadband technology

Z. Shao, Y. Yao, Wuhan Univ. (China); Q. Cheng, Huazhong Univ. of Science and Technology (China); X. Zhu, Wuhan Univ. (China)

Urban function district clustering based on GIS and self-organizing feature map network

Y. Shi, Y. Wang, J. Cao, Shandong Univ. of Technology (China)

Analysis on an acquisition algorithm for weak signal GPS receiver

C. Song, S. Yong, F. Wang, National Univ. of Defense Technology (China)

QFT/H∞ robust mixed sensitivity control of command tracking system for space vehicle

C. Yang, J. An, Northwestern Polytechnical Univ. (China)

Analysis on handover management of mobile IP protocols in satellite networks

Y. Song, X. Gu, Harbin Institute of Technology (China)
<table>
<thead>
<tr>
<th>Presentation ID</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>6795 6V</td>
<td>Performance analysis for LDPC-coded optical PPM communication system in weak turbulence [6795-246]</td>
<td>H. Wang, Y. Su, G. Zhang, T. Zhang, Naval Aeronautical Engineering Institute (China)</td>
</tr>
<tr>
<td>6795 6W</td>
<td>Quantitative evaluation of regional vegetation ecological environment quality by using remotely sensed data over Qingjiang, Hubei [6795-247]</td>
<td>C. Wang, Y. Sun, L. Li, Q. Zhang, Huazhong Univ. of Science and Technology (China)</td>
</tr>
<tr>
<td>6795 6X</td>
<td>Key solutions to WEB-GIS based GPS vehicle monitoring system [6795-248]</td>
<td>J. Tan, L. Gao, Institute of Remote Sensing Applications (China); J. B. Zhang, China Univ. of Petroleum (China); Y. Ren, L. Wu, L. Sheng, Institute of Remote Sensing Applications (China)</td>
</tr>
<tr>
<td>6795 6Y</td>
<td>Hardware-in-the-loop simulation of the dynamic characteristics of rain fading channel for satellite-to-Earth links at Ka-band [6795-249]</td>
<td>H. Yao, H. Wang, Institute of Communications Engineering, PLAUST (China)</td>
</tr>
<tr>
<td>6795 6Z</td>
<td>An efficient OFDM channel estimation method for satellite and intermediate module repeater channels in DMB system [6795-250]</td>
<td>M. Jia, X. Gu, Harbin Institute of Technology (China); S. Im, H. Choi, Sungkyunkwan Univ. (South Korea)</td>
</tr>
<tr>
<td>6795 70</td>
<td>A geocentric vertical datum for coastal geospatial data infrastructure construction [6795-251]</td>
<td>S. Wang, W. Huang, D. Wu, Dalian Naval Academy (China); M. Liu, Huazhong Univ. of Science and Technology (China)</td>
</tr>
<tr>
<td>6795 71</td>
<td>Combined STBC and VBLAST scheme with transmit antenna selection for downlink space distributed MIMO systems [6795-252]</td>
<td>X. Cao, Huazhong Univ. of Science and Technology (China); G. Zhu, Huazhong Univ. of Science and Technology (China) and Wuhan National Lab. for Optoelectronics (China); G. Su, X. Liang, Huazhong Univ. of Science and Technology (China)</td>
</tr>
<tr>
<td>6795 72</td>
<td>Analysis and simulations of GDOP in the location of GPS [6795-253]</td>
<td>Z. Wang, J. Zhang, Beihang Univ. (China)</td>
</tr>
<tr>
<td>6795 73</td>
<td>Spatial uncertain region representation based on cloud model [6795-254]</td>
<td>Z. Wang, L. Xue, Y. Xiao, Chongqing Univ. of Posts and Telecommunications (China)</td>
</tr>
<tr>
<td>6795 74</td>
<td>A novel interference suppression scheme for narrowband interference in satellite communication systems [6795-255]</td>
<td>H. Liu, C. Xia, R. Zhou, Beijing Institute of Technology (China)</td>
</tr>
<tr>
<td>6795 75</td>
<td>A GIS technology based visual simulation for large irrigation district informatization [6795-256]</td>
<td>B. Yang, L. Li, S. Yi, Huazhong Univ. of Science and Technology (China)</td>
</tr>
<tr>
<td>6795 76</td>
<td>Indoor positioning performance of Galileo signal [6795-257]</td>
<td>B. Yang, Northwestern Polytechnical Univ. (China); Y. Xu, Civil Aviation Flight Univ. of China (China); J. Luo, Northwestern Polytechnical Univ. (China); Y. Bao, Civil Aviation Flight Univ. of China (China)</td>
</tr>
</tbody>
</table>
The compensation methods of wide-band modulator for satellite communication
[6795-258]
J. Yang, B. Jiang, E. Zhang, National Univ. of Defense Technology (China)

Modeling and simulation on the non-frequency-selective land mobile satellite channel in shadowing environments [6795-259]
M. Yang, Y. Jiang, Q. Guo, Harbin Institute of Technology (China)

The oil and gas engineering techniques based on Digital Earth Platform [6795-260]
C. Ye, F. Miao, Chengdu Univ. of Technology (China); X. Kong, Chengdu Univ. of Technology (China) and Taiyuan Univ. of Technology (China); X. Bi, R. Liu, Chengdu Univ. of Technology (China)

An integrated spatial multi-objective analysis framework for water allocation in large irrigation districts [6795-261]
C. Wang, H. Ye, S. Yi, L. Li, Huazhong Univ. of Science and Technology (China)

Research of the small satellite data management system [6795-262]
X. Yu, F. Zhou, J. Zhou, Northwestern Polytechnical Univ. (China)

A CSCW data mining model for spatial knowledge production [6795-263]
L. Yu, Y. Tian, F. Bian, Wuhan Univ. (China)

Land degradation monitoring using time-series MODIS and TM data [6795-264]
J. Yuan, Hebei Normal Univ. (China) and Institute of Remote Sensing Applications (China); Z. Niu, Institute of Remote Sensing Applications (China); L. Long, Hebei Normal Univ. (China); J. Xu, Institute of Remote Sensing Applications (China)

A new scheme for improving the TCP transmission efficiency in space network [6795-265]
Y. Liu, C. He, X. Ge, Y. Dong, Z. Li, Huazhong Univ. of Science and Technology (China)

Using the global positioning system (GPS) to gain three-dimensional dynamic information of bridge pylon [6795-266]
D. Yue, Z. Gu, C. Xu, Hohai Univ. (China)

Research and design on the software-based integrated receivers of GPS/Galileo [6795-267]
Z. Lei, J. Deng, J. Wang, N. Dai, Shanghai Institute of Technical Physics (China)

A data fusion algorithm in GPS/GIS system [6795-268]
C. Li, Southeast Univ. (China) and Jiangsu Univ. (China); Q. Wang, Y. Tai, F. Li, Southeast Univ. (China)

A new quick algorithm for GPS/Galileo/BD satellite system [6795-269]
M. Zhang, J. Zhang, Y. Qin, Beihang Univ. (China)

Quasi-real time estimation of distributed precipitation using EOS/MODIS remote sensing datasets [6795-270]
Q. Zhang, C. Wang, Huazhong Univ. of Science and Technology (China); F. Shinohara, T. Yamaoka, Information and Science Techno-System Co., Ltd. (Japan)
<table>
<thead>
<tr>
<th>Paper ID</th>
<th>Title</th>
<th>Authors</th>
<th>Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>6795-271</td>
<td>A navigation computer system based on SINS and GPS</td>
<td>C. Xu, X. Yang, H. Li, L. Liu</td>
<td>Beijing Institute of Technology (China)</td>
</tr>
<tr>
<td>6795-272</td>
<td>Situation assessment oriented group decision intelligent support technology</td>
<td>H. Shi, J. Yan, Z.-J. Yu, W. Li</td>
<td>Northwestern Polytechnical Univ. (China)</td>
</tr>
<tr>
<td>6795-273</td>
<td>Precision analysis of passive BD aided pseudolites positioning system</td>
<td>X. Zhang, Beijing Univ. of Aeronautics and Astronautics (China) and North. Univ. of China (China); Y. Zhao, Beijing Univ. of Aeronautics and Astronautics (China)</td>
<td></td>
</tr>
<tr>
<td>6795-274</td>
<td>On intermodulation beams of satellite DBF transmitting multibeam array antenna</td>
<td>H. Zhao, Nanjing Univ. of Science and Technology (China); H. Wang, PLAUST (China); S. Mu, Nanjing Univ. of Science and Technology (China)</td>
<td></td>
</tr>
<tr>
<td>6795-275</td>
<td>Study on fault-tolerant SINS/GPS integrated navigation system</td>
<td>L. Zhao, Beijing Univ. of Aeronautics and Astronautics (China)</td>
<td></td>
</tr>
<tr>
<td>6795-276</td>
<td>Effects and mitigation of multipath on GPS/Galileo</td>
<td>Y. Zhao, Q. Wang, S. Pan, J. He</td>
<td>Southeast Univ. (China)</td>
</tr>
<tr>
<td>6795-277</td>
<td>Implementation of LSCMA adaptive array terminal for mobile satellite communications</td>
<td>S. Zhou, H. Wang, Z. Xu</td>
<td>PLAUST (China)</td>
</tr>
<tr>
<td>6795-278</td>
<td>An extending technique of visualization of the terrain based on LoD of fractal</td>
<td>G. Zhu, C. Wang, Huazhong Univ. of Science and Technology (China)</td>
<td></td>
</tr>
<tr>
<td>6795-279</td>
<td>Frequency estimation algorithm for high dynamic GPS receivers based on UKF</td>
<td>Y. Zhu, Z. Liu, Q. Zhang, D. Yang</td>
<td>Beihang Univ. (China)</td>
</tr>
<tr>
<td>6795-280</td>
<td>Adaptive Kalman filtering methods for tracking GPS signals in high noise/high dynamic environments</td>
<td>Q. Zuo, Ctr. for Space Science and Applied Research (China); Academy of Optoelectronics (China), and Graduate Univ. of Chinese Academy of Sciences (China); H. Yuan, B. Lin, Academy of Optoelectronics (China)</td>
<td></td>
</tr>
<tr>
<td>6795-281</td>
<td>Adaptive RED algorithm based on minority game</td>
<td>J. Wei, Huazhong Univ. of Science and Technology (China); L. Lei, Wuhan Institute of Technology (China); J. Qian, Huazhong Univ. of Science and Technology (China)</td>
<td></td>
</tr>
<tr>
<td>6795-282</td>
<td>Design and implementation of high dynamic GNSS digital receiver</td>
<td>H. Li, S. Geng, C. Wang, Y. Xu, Q. Zhang</td>
<td>Beihang Univ. (China)</td>
</tr>
<tr>
<td>6795-283</td>
<td>Hyperspectral sensing of forests</td>
<td>D. G. Goodenough, A. Dyk, Natural Resources Canada (Canada) and Univ. of Victoria (Canada); H. Chen, G. Hobart, Natural Resources Canada (Canada); K. O. Niemann, Univ. of Victoria (Canada); A. Richardson, Natural Resources Canada (Canada) and Univ. of Victoria (Canada)</td>
<td></td>
</tr>
<tr>
<td>6795-284</td>
<td>Data quality control in eco-environmental monitoring</td>
<td>C. Lu, J. Wang, Ministry of Land and Resources (China)</td>
<td></td>
</tr>
</tbody>
</table>
A novel stereo distribution SBR with GEO illuminator [6795-285]
J. Chen, Shanghai Jiaotong Univ. (China) and Shanghai Institute of Satellite Engineering (China); J. Zhu, Shanghai Jiaotong Univ. (China)

Improvement of modular multiplication algorithm based on sliding window [6795-286]
J. Chen, Huazhong Univ. of Science and Technology (China) and China Shipbuilding Industry Corp. (China); X. Fang, China Shipbuilding Industry Corp. (China)

Valuation method study of satellite communication systems based on genetic algorithm [6795-287]
Z. Chen, Y. Meng, J. Mao, The Second Artillery Command College (China)

Mixed jamming method for SAR [6795-288]
H. Zhao, P. Zhang, Y. Wang, Northwestern Polytechnical Univ. (China)
Symposium Committees

General Chair

Cheng Wang, Huazhong University of Science and Technology (China)

General Cochair

Don M. Flournoy, Ohio University (USA)

Program Committee

Shan Zhong, Chair, Member of Chinese Academy of Engineering (China)
G. I. Chesnokov, Cochair, The Moscow Institute of Electromechanics and
Automatics (Russia)

Members

A. P. Cracknell, University of Dundee (United Kingdom)
Guanzhong Dai (China)
David Goodenough, University of Victoria (Canada)
F. G. Yuan, North Carolina State University (USA)
Xuemai Gu, Harbin Institute of Technology (China)
Hermann Rohling, University of Hamburg (Germany)
Xiulin Hu, Huazhong University of Science and Technology (China)
Ruisong Huang, Member of Chinese Academy of Engineering (China) and
the 3rd Academy of China Aerospace Science and Industry Corporation
(China)
Jean-François Kaufeler ONERA (France)
Bin Jiang, Hong Kong Polytechnic University (Hong Kong China)
Jinshan Jiang, Member of Chinese Academy of Engineering (China) and
Center for Space Science and Applied Research, Chinese Academy
of Sciences (China)
John S. Baras, University of Maryland, College Park (USA)
Bohu Li, Member of Chinese Academy of Engineering (China) and
the 2nd Academy of China Aerospace Science and Industry
Corporation (China)
Lemin Li, Member of Chinese Academy of Engineering (China) and
University of Electronic Science and Technology of China (China)
Shikun Li, National University of Defense Technology (China)
Wei Li, Member of Chinese Academy of Sciences (China) and Beijing
University of Aeronautics and Astronautics (China)
Jincai Liang, Member of Chinese Academy of Engineering (China) and
the 8th Academy of China Aerospace Science and Technology
Corporation (China)
Qiang Liu, Chinese Academy of Space Technology (China)
Shijun Ma, Chinese Academy of Space Technology (China)
Martti T. Hallikainen, Helsinki University of Technology (Finland)
Michael Goodchild, University of California, Santa Barbara (USA)
Tianen Chen, Tokyo University (Japan)
Huali Wang, PLA University of Science and Technology (China)
Wenzhong Shi, Hong Kong Polytechnic University (Hong Kong China)
Will Featherstone, Curtin University of Technology (Australia)
Guohong Xia, China Aerospace Science and Industry Corporation (China)
Yakov D. Shirman, Kharkov Military University (Ukraine)
Suya You, University of Southern California (USA)
Zheng You, Tsinghua University (China)
Gengxin Zhang, PLA University of Science and Technology (China)
Jun Zhang, Beijing University of Aeronautics and Astronautics (China)
Lvqian Zhang, Member of Chinese Academy of Engineering (China)
Naitong Zhang, Member of Chinese Academy of Engineering, Harbin Institute of Technology (China)
Tianxu Zhang, Huazhong University of Science and Technology (China)
Jun Zhou, Northwestern Polytechnical University (China)

Executive Committee

Xiulii Hu, Chair, Huazhong University of Science and Technology (China)
Qian Liang, Cochair, Huazhong University of Science and Technology (China)

Members

Guangxi Zhu, Huazhong University of Science and Technology (China)
Shu Wang, Huazhong University of Science and Technology (China)
Yu Liu, Huazhong University of Science and Technology (China)
Shiqing Peng, Huazhong University of Science and Technology (China)

Conference Secretariat

Jiaolong Wei, Secretary General, Huazhong University of Science and Technology (China)
Pingmei Hou, Co-Secretary General (China)

Members

Yan Tian, Huazhong University of Science and Technology (China)
Bin Ye, Huazhong University of Science and Technology (China)
ZhaoHui Cen, Huazhong University of Science and Technology (China)
Liang Zhou, Huazhong University of Science and Technology (China)
Introduction

In 2005, the First International Conference on Space Information Technique was held at the Huazhong University of Science and Technology in Wuhan, China. That conference was a great success, at which scientists, engineers, and graduate students from different countries and areas made about 200 presentations of their new research results concerning space information techniques.

The Second International Conference on Space Information Technique aims to bring together the latest work that has been carried out in the area of space information technology, and further promote the new-round academic exchange among researchers of different countries. This conference has aroused great interest on the part of numerous researchers, and the conference committee received over 700 papers from different countries and areas. Those papers cover space communications network theory and technology, spacecraft payload, Earth observation and navigation, deep-space exploration and communication, safety and protection for space information systems, and space information systems and applications which involves aspects of acquisition, transmission, processing, and applications of space information.

All submissions are subject to peer review by the technical committee that is composed of well-known experts in the broad area of space information technology from both academia and industry. The chairs of the committee recommended the acceptance or rejection of the submissions based on the review comments. Finally, 288 high-level papers are included in this volume.

We extend our thanks to all the authors and technical committee members for their contribution to the success of the conference. We also thank the SPIE staff for their efforts in publishing these conference proceedings.

Cheng Wang