Contents

Study of System Effectiveness Evaluation for Optical Imaging
Reconnaissance Satellite Based on Fuzzy Theory .................... 1
Liu Tao

Analysis of Platform and Payload Integrated Design Technology
for Optical Remote Sensing Satellites .............................. 9
Yanfeng Yao

Precision Thermal Control Technology of Secondary Mirror
Structure in Large F Number Korsch Space Camera .................. 23
Shikui Luo, Dongjing Cao and Xinyang Song

Space-Borne Integrated Design Analysis of Remote Sensing Camera
on Geosynchronous Orbit ............................................. 33
Yue Wang, Shiqi Li, Feng Yu, Wenpo Ma, Minlong Lian, Jie Dong
and Nana Xu

Dynamic Parameter Identification of Damping Reinforced
Components and Its Application in Space Optical Instrument
Stabilization ............................................................... 49
Shaohui Li, Guangyuan Wang and Guoqiang Ni

Optical Design and Measurements of a Dynamic Target Monitoring
Spectrometer for Potassium Spectra Detection in a Flame ........... 61
Haiyan Luo, Wei Xiong, Shuang Li, Zhiwei Li and Jin Hong

Optical Design of an Aperture-Divided MWIR
Imaging Polarimeter ..................................................... 73
Xuhie Huang, Yangming Jin, Zhicheng Zhao, Lin Han, Jiacheng Zhu
and Weimin Shen
On-Board Spectral Calibration for Chinese Medium Resolution Imaging Spectrometer ........................................... 201
R.M. Fu, Y.X. Liu and M. Li

Calibration Method of High Spectral Infrared Atmospheric Sounder Onboard FY-3D Satellite ........................................... 211
Chengli Qi, Mingjian Gu, Chunqiang Wu and Xiuqing Hu

Design and Verification of Ratioing Radiometer Parameters .... 221
Li Mengfan, Zou Peng, Meng Binghuan, Shi Hai Liang, Hong Jin and Qiao Yanli

Polarization Measurement of the Grating Spectrograph Imager .... 231
Jingyi Wang, Yongxiang Guo, Junyu Ke and Yongqiang Li

Possibility of Applying SLAM-Aided LiDAR in Deep Space Exploration ................................................................. 239
Yuwei Chen, Jian Tang, Ziyi Feng, Teemu Hakala, Juha Hyyppä, Chuncheng Zhou, Lingli Tang and Chuanrong Li

In-Orbit Calibration Method for Sun Sensor Based on Sun Ephemeris and Star Sensor .................................................. 249
Qiao-yun Fa and Jia-wen Peng

Study of Gain Test Method for Charge Coupled Device .......... 259
Shanshan Cui, Binghuan Meng, Zhenwei Qiu, Pingping Yao, Donggen Luo and Jin Hong

Yinlin Yuan, Xiaobing Zheng, Haoyu Wu, Wenchao Zhai, Honghu Qian, Donggen Luo, Weifeng Yang and Jin Hong

Development of Self-Calibration Spectral Radiometer of Correlated Photons on Orbit ................................................... 279
Jianjun Li, Yan Liu, Dongyang Gao, Youbo Hu, Yuanuyuan Guo, Wenchao Zhai, Fangang Meng, Jing Yan and Xiaobing Zheng

A Novel Study on the Technique for Deriving O/N2 from Thermospheric Far Ultraviolet Dayglow Emissions ....................... 289
Yongchao Zhang, Jun Zhu, Huan Yin and Xiaoxin Zhang

Egress Mechanism Color Image Segmentation Based on Region and Feature Fusion in Mars Exploration ........................ 301
Ying Li, Wei Rao, Jing Peng, Ying Du, Linzhi Meng and Zheng Gu

An Automatic Precise Registration Method Based on the Relative Geometric Calibration Between Bands for Satellite Multi-spectral Image ................................................................. 309
He Wei, Long Xiaoxiang, Yu Jing and Zhang Chi
Shadow Extraction from High-Resolution Remote Sensing Images
Based on Gram-Schmidt Orthogonalization in Lab Space ............ 321
Jianhua Guo, Fan Yang, Hai Tan and Bing Lei

Optimal Sensitivity Design of Multispectral Camera Via Broadband
Absorption Filters Based on Compressed Sensing .................. 329
Suixian Li and Liyan Zhang

Research and Design of the Architecture of On-Orbit Remote Sensing
Information Processing System .............................................. 341
Lanzhi Gao, Chao Tan, Panfeng Wu and Qixing Zhu

An Improved Side-Slither Method for On-Orbit Relative Radiometric
Calibration ................................................................. 351
Chen ChaoChao, Wang Mi and Pan Jun

Remote Sensing Image Denoising with Iterative Adaptive Wiener
Filter ................................................................. 361
Dan Wang, Xinfeng Zhang, Yong Liu, Zhiwei Zhao
and Zhengji Song

Clutter and Noise Suppression Based on Match Filter ............ 371
Dong-nan Chi and Li-na Xu

A Digital TDI Operation Method of Array CCD Based on Curve
Fitting Algorithm ........................................................... 383
Lei Ning, Li Qiang, Hu Yuting, Bao Bin and Li Tao

Observation Capability and Application Prospect of GF-4 Satellite .... 393
Dianzhong Wang and Hongyan He

Research on Digital TDI Technology for Optimizing Sequence Remote
Sensing Images Applied in an Imager with Area Array CMOS Sensor ... 403
Jiuzhe Wei, Xiaoyong Wang and Changning Huang

A Method of Coastline Detection from High-Resolution Remote
Sensing Images Based on the Improved Snake Model ............ 419
Xing Kun, Zhang Bing-xian and He Hong-yan

Design of High Precision Rotary Pointing Device Driven
by Voice Coil Motors ...................................................... 429
Qian Cao, Ming Li and Peng-mei Xu

Discussion on Issues in the Implementation of Spaceborne FTS ..... 439
Lizhou Hou, Pengmei Xu and Bicen Li

Key Performance Simulation and Analysis of Space Borne Fourier
Transform Infrared Spectrometer ....................................... 447
Bicen Li, Lizhou Hou and Pengmei Xu
Zhenwei Feng, Yufu Cui, Xinfeng Yang and Jiang Qin

Research on Simulation Method of Mineral Monitoring With Remote Sensing Satellites ........................................ 471
Yue Zhang, E. Wei, Jianfeng Yin and Lixia Huang

Compact Spectrometers for Earth Observation .................. 481
B. Snijders, L.F. van der Wal, B.T.G. de Goeij, R. Jansen, P. Toet and J.A.J. Oosterling

Radiometric Calibration of the GOME-2 Instrument ........ 493
Gerard Otter, Niels Dijkhuizen, Amir Vosteen, Sanneke Brinkers, Bilgehan Gür and Pepijn Kenter

Sentinel-3A: First Flight Results of Its Optical Payload .......... 505
Jean-Loup Bézy, Jens Nieke, Johannes Frerick, Constantin Mavrocordatos and The S3 team

Index .................................................................................. 515
3rd International Symposium of Space Optical Instruments and Applications
Beijing, China June 26 - 29th 2016
Urbach, H.P.; Zhang, G. (Eds.)
2017, XI, 517 p. 301 illus., 207 illus. in color., Hardcover
ISBN: 978-3-319-49183-7