



# 航天返回与遥感



中国航天

北京航空航天大学  
中国宇航学会  
中国宇航学会返回与再入专业委员会  
中国宇航学会空间遥感专业委员会

## 目 次

### 专家特约稿

- 高分辨率光学卫星测绘技术综述..... 李德仁, 王密 (1)  
光学摄影测量卫星发展..... 王建荣, 王任享, 胡莘 (12)

### 总体技术

- “高分七号”高精度光学立体测绘卫星实现途径研究  
..... 曹海翊, 戴君, 张新伟, 赵晨光, 刘付强, 国爱燕, 徐驰 (17)  
“高分七号”卫星双线阵相机的设计及实现  
..... 王长杰, 杨居奎, 孙立, 朱永红, 黄颖, 贺勃, 于双江, 王春雨, 李重阳, 殷亚洲 (29)  
星载激光测高仪高精度波形数字化获取技术研究  
..... 黄庚华, 童鹏, 丁宇星, 蓝晓萍, 王海伟, 舒嵘 (39)

### 遥感器设计技术

- “高分七号”卫星双线阵相机高稳定性设计与分析..... 孙立, 王长杰, 朱永红, 黄颖, 殷亚洲 (47)  
离轴反射式系统面形误差高精度还原装调技术  
..... 王春雨, 黄阳, 王聪, 牛锦川, 赵英龙, 张生杰, 王蓉 (58)  
“高分七号”卫星遥感相机可展开遮光罩的设计和实现  
..... 曹旭, 江长虹, 冯昊, 孔见, 徐彦, 王立武, 武士轻 (67)  
“高分七号”卫星相机高精度快速在轨调焦方法  
..... 谭伟, 王殿中, 何红艳, 邢坤, 王长杰, 杨居奎 (78)  
TDICCD 时序改进方法探讨..... 万旻, 李硕, 于双江, 梁楠, 王蕴龙, 成桂梅, 刘涛 (87)  
“高分七号”卫星双线阵相机暗电流特性分析及校正  
..... 张斐然, 董方, 刘冰洁, 李阳, 李春梅, 董书莉 (96)

### 数据处理与应用技术

- “高分七号”卫星遥感影像自动云检测..... 李俊杰, 傅俏燕 (108)  
基于多通道融合的遥感影像电子学噪声去除方法..... 张炳先, 李岩, 何红艳 (116)  
“高分七号”卫星相机成像参数预估与验证..... 王殿中, 齐文雯, 谭伟, 何红艳 (122)

# Spacecraft Recovery & Remote Sensing

Vol. 41 No. 2 (Cumulative 182) Apr. 2020

---

## Contents

### Expert Special Papers

- A Review of High Resolution Optical Satellite Surveying and Mapping Technology  
..... LI Deren, WANG Mi (1)
- Development of Optical Satellite Photogrammetry  
..... WANG Jianrong, WANG Renxiang, HU Xin (12)

### Overall Technology

- Study on the Development Approach of GF-7 High Precision Optical Stereo Mapping Satellite  
..... CAO Haiyi, DAI Jun, ZHANG Xinwei, ZHAO Chenguang, LIU Fuqiang, GUO Aiyang, XU Chi (17)
- Design and Implementation of the Dual Line Array Camera for GF-7 Satellite  
..... WANG Changjie, YANG Jukui, SUN Li, ZHU Yonghong, HUANG Ying, HE Qing  
..... YU Shuangjiang, WANG Chunyu, LI Chongyang, YIN Yazhou (29)
- High Accuracy Full Waveform Digitizing Technology of Spaceborne Laser Altimeter  
..... HUANG Genghua, TONG Peng, DING Yuxing, LAN Xiaoping, WANG Haiwei, SHU Rong (39)

### Remote Sensor Design

- High Stability Design and Analysis for the Dual Line Array Camera of GF-7 Satellite  
..... SUN Li, WANG Changjie, ZHU Yonghong, HUANG Ying, YIN Yazhou (47)
- High Precision Reconstruction and Adjustment Technique for Surface Figure Error of the Off-axis Reflective System  
..... WANG Chunyu, HUANG Yang, WANG Cong, NIU Jinchuan, ZHAO Yinglong, ZHANG Shengjie, WANG Rong (58)
- Design and Implementation of the Deployable Sunshield on GF-7 Satellite Remote Sensing Camera  
..... CAO Xu, JIANG Changhong, FENG Hao, KONG Jian, XU Yan, WANG Liwu, WU Shiqing (67)
- Research on High Accurate Refocusing Method of GF-7 Camera  
..... TAN Wei, WANG Dianzhong, HE Hongyan, XING Kun, WANG Changjie, YANG Jukui (78)
- Discussion on Improved Methods of TDICCD Clock Driving  
..... WAN Min, LI Shuo, YU Shuangjiang, LIANG Nan, WANG Yunlong, CHENG Guimei, LIU Tao (87)
- Analysis and Correction of Dark Current for the Dual Line Array Camera of GF-7 Satellite  
..... ZHANG Feiran, DONG Fang, LIU Bingjie, LI Yang, LI Chunmei, DONG Shuli (96)

### Remote Sensing Information Processing and Application

- Automatic Cloud Detection of GF-7 Satellite Imagery ..... LI Junjie, FU Qiaoyan (108)
- Electronic Noise Removal Method for Remote Sensing Image Based on Multi-channel Fusion  
..... ZHANG Bingxian, LI Yan, HE Hongyan (116)
- Prediction and Validation of GF-7 Satellite Camera's Imaging Parameters Combination  
..... WANG Dianzhong, QI Wenwen, TAN Wei, HE Hongyan (122)