

Research Group for Hyperspectral Remote Sensing, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

This research group has been aiming at the international frontier. They innovatively developed a series of fundamental theories and models for hyperspectral remote sensing (HRS), and made major breakthroughs in the field imaging spectrometry and hyperspectral image simulation technologies; resolved key techniques for HRS image process, information extraction, surface parameter estimation and system development; effectively bridged the gap between the HRS advanced theories and their actual use in various application fields including agriculture, mineral and energy resource exploration, environment, preservation of cultural relics and military, which greatly promote the development of aerospace HRS in China. The group played a key role in the initiation, technology leading, talent cultivation, popularization and applications for China's HRS; produced major impacts worldwide. This group has made irreplaceable significant contributions in fostering the role of China as a world leading country in HRS.



国内首套地面成像光谱辐射计, 在 hyperspectral 遥感机理研究、食品安全、文物保护、目标探测等方面得到广泛应用

China's first field imaging spectrometer, widely applied in various fields including hyperspectral mechanism research, food security, preservation of cultural relics and target detection

Outstanding contributors of this research group

Zhang Bing

As the team leader of the research group, he guided the development of both fundamental and frontier technologies, developed a series of hyperspectral image processing and analysis models, as well as corresponding software and hardware systems.

Zhang Lifu

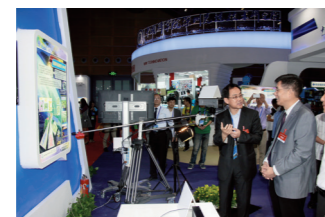
As the academic leader of hyperspectral remote sensing (HRS), he developed series field imaging spectrometer systems and opened up HRS interdisciplinary innovative applications in various fields.

Tong Qingxi

As the father of Chinese hyperspectral remote sensing (HRS), he made significant contributions to the development of Chinese HRS as well as to the talents cultivation, multidisciplinary applications and international popularization of Chinese HRS.

Other members

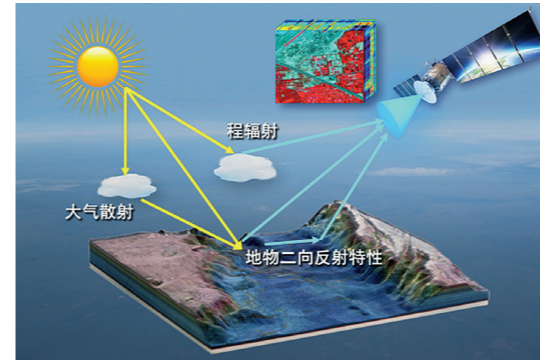
- Liu Liangyun
- Zhang Xia
- Gao Lianru
- Huang Wenjiang
- Chen Zhengchao
- Shen Qian
- Wu Taixia
- Zhang Wenjuan
- Wu Yuanfeng
- Sun Xu
- Huang Changping
- Zhang Hao
- Li Junsheng
- Jiao Quanjun
- Yang Hang
- Wu Yanhong
- Peng Dailiang



团队成果参展第十七届深圳高交会
Team achievements were selected by Chinese Academy of Sciences for exhibition at the 17th China Hi-Tech Fair in Shenzhen



张兵研究员应邀在日本东京召开的 IEEE WHISPERS 2015 国际大会上作题为“智能高光谱遥感发展展望”的特邀报告
Zhang Bing was invited to give a plenary talk: "Intelligent hyperspectral remote sensing satellite: a new perspective" at IEEE GRSS WHISPERS 2015 workshop, Tokyo, Japan



国内首套全链路高光谱图像模拟系统, 支撑了我国系列航天高光谱遥感载荷指标设计、型号论证与算法模型预先研究

China's first full-chain hyperspectral image simulation system, successfully providing supports to China's series spaceborne hyperspectral payloads design, type demonstrations, and algorithm and model pre-researches

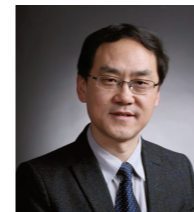
高光谱遥感研究集体

推荐单位: 中国科学院遥感与数字地球研究所

研究集体主要科技贡献:

该研究集体瞄准国际前沿, 创新发展了系列高光谱遥感基础理论与模型, 实现了成像光谱地面测量技术与高光谱图像模拟技术的重大突破; 攻克了高光谱图像处理、信息提取、地表参量反演、系统研发等核心技术; 有效解决了高光谱遥感前沿理论与多领域实际应用之间的关键瓶颈, 在地矿、农业、环保、文物、军事等多个领域得到成功应用, 有力推动了我国航空、航天高光谱遥感事业的发展。在我国高光谱遥感的起步开创、技术引领、人才培养、推广应用等方面发挥了核心作用, 在国际上产生了重大影响, 为我国高光谱遥感始终处于该领域国际前沿作出了不可替代的重大贡献。

研究集体突出贡献者



张兵 Zhang Bing

张兵 中国科学院遥感与数字地球研究所

主要科技贡献: 团队学科带头人, 引领基础与前沿技术发展, 主持研发系列高光谱数据处理分析模型及软硬件系统。



张立福 Zhang Lifu

张立福 中国科学院遥感与数字地球研究所

主要科技贡献: 高光谱遥感学术带头人, 主持研发了系列地面成像光谱系统, 开拓了高光谱遥感的跨学科多领域创新应用。



童庆禧 Tong Qingxi

童庆禧 中国科学院遥感与数字地球研究所

主要科技贡献: 我国高光谱遥感学科的创始人, 为我国高光谱遥感的发展、人才培养、多领域应用和国际推广做出了巨大贡献。

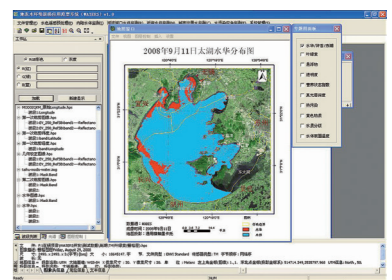
研究集体主要完成者

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吴远峰 孙旭 黄长平 张浩 李俊生 焦全军 杨杭 吴艳红
彭代亮



国内首套高光谱图像星上实时处理实验系统 (HOPES), 首次实现了高光谱图像获取与处理过程的同步进行

China's first Hyperspectral image Onboard Processing Engine System, for the first time, made it come true that the simultaneousness of acquisition and processing for hyperspectral image



国内首套内陆水环境遥感监测系统, 已纳入国家和省级环保业务运行体系

China's first inland water environment remote sensing monitoring system, has been incorporated into the national and provincial environment protection business operation systems