

Rotary-scanning Hyperspectral Imaging System

ATH3010

Features

- Highly sensitive hyperspectral imager
- 13-megapixel visible light camera with integrated spectrum and image functions
- High-performance image sensor with excellent cost performance
- High-stability high-blue illumination light source with adjustable power
- Optical design with full-target high imaging quality; the diameter of spot diagram is less than 0.5 pixel.
- The objective lens adopts standard C-Mount interface, and the lens can be replaced according to user requirements.
- Wavelength range: 400-1000nm
- High spectral resolution: 1.3 nm
- Maximum field of view: 31.7°
- Minimum instantaneous field of view: 1.2 mrad
- Excellent imaging performance

Application

- Agricultural applications
- Forestry applications
- Water environment application
- Soil monitoring
- Geological applications
- Urban applications

Description

The ATH3010 is a compact, lightweight micro-highspectral imager that features high spatial resolution, high spectral resolution, and a wide imaging range. It incorporates a built-in, highly stable blue light source with adjustable power, eliminating the need for additional illumination. The system consists of two components: a hyperspectral imager and a fully automated electric rotator, with the imager utilizing high-efficiency transmission grating technology to deliver excellent aberration performance.

The ATH3010 can also be mounted on a tripod or vertical pole, and equipped with automatic calibration devices and weather monitoring sensors to enable long-term, large-area scanning of targets.

Model	Max. Spectral Channels	Max. Spatial Channels
ATH3010	1920	1200
ATH3010-17	640	640
ATH3010-25	512	512



1. Selection Guide

Model	Description
ATH3010	400-1000 nm, 1920×1200 pixels
ATH3010-17	400-1700 nm, 640×512 pixels
ATH3010-25	1000 -2500 nm, 640×512 pixels

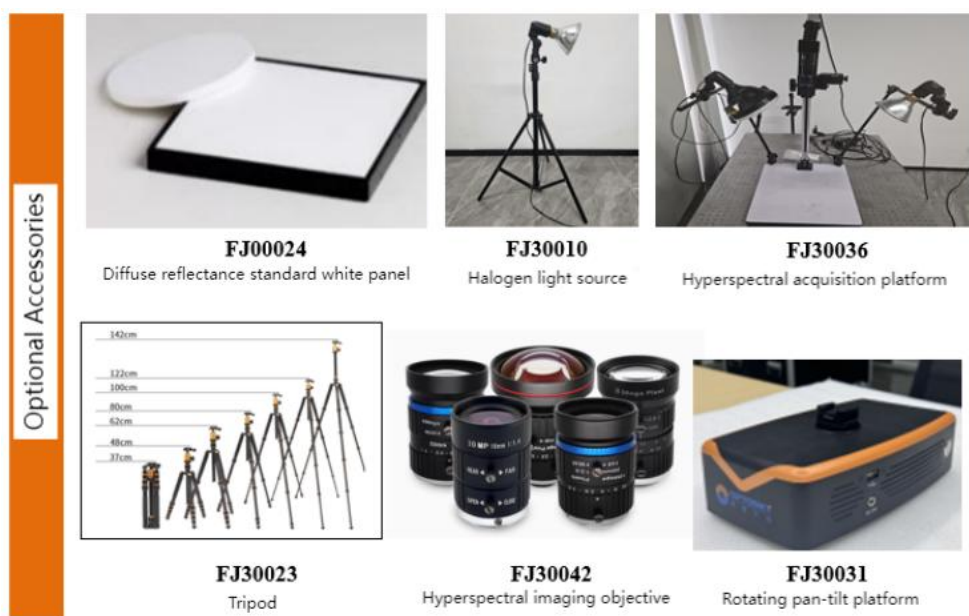
2. Parameter

NO.	Specification	ATH3010	ATH3010-17	ATH3010-25
1	Spectral Range	400-1000nm	900-1700nm	1000-2500nm
2	Best Spectral Resolution	No Binning: Better than 1.3 nm	3.5nm	6nm
3	Detector	CMOS	InGaAs Detector	Cryogenically-Cooled HgCdTe Detector
4	Detector Interface	USB3.0		
5	Detector Target Size	11.3 × 7.03 mm	9.6 × 7.68 mm	9.6 × 7.68 mm
6	Detector Native Resolution	1920 × 1200	640 × 512	640 × 512
7	Detector Pixel Size	5.86 μm × 5.86 μm	15 μm × 15 μm	15 μm × 15 μm
8	Pixel Depth	12 bits	14 bits	14 bits
9	Slit Width	15 μm, 25 μm, etc.	15 μm, 25 μm, etc.	15 μm, 25 μm, etc.
10	Binning Mode	4×4 /2x2	4×4 /2x2	4×4 /2x2
11	Max. Spatial Bands	1200	512	512
12	Max. Spectral Bands	1920	640	640
13	FOV	11.4°@f=35 mm	15.2°@f=35mm	15.2°@f=35mm

NO.	Specification	ATH3010	ATH3010-17	ATH3010-25
14	IFOV	0.167mrad@f=35mm	0.42 mrad@f=35 mm	0.42 mrad@f=35 mm
15	Maximum Frame Rate	164 fps	80fps	60 fps
16	Dimensions	320*260*300mm	320*260*300mm	340*280*320mm
17	Weight	<3 kg	<3.5 kg	<4 kg
18	Operating Temperature	-10 - 50°C	-10 - 50°C	-10 - 50°C
19	Storage Temperature	-30-70°C	-30-70°C	-30-70°C
20	Scanning Method	External Pushbroom Measurement		
21	Data Acquisition Software	Exposure time can be flexibly set, with real-time hyperspectral images and spectral curves dynamically displayed.		
22	Data Analysis Software	Clustering analysis, single-band images, true and false color images, more than 20 customizable vegetation indices, 3D image cropping, target spectral identification and other results can be obtained with one click without third-party software. All these functions support unattended batch processing.		
23	Software Display	Dynamically display hyperspectral images in real time and implement scientific brightness focusing to eliminate errors caused by manual visual focusing.		

3. Accessories

NO.	Item	Specification	Quantity
1	ATH3010 Rotary-scanning Hyperspectral Imaging System	400-1000nm	1
2	Hyperspectral Camera Connection Cable	USB3.0, 1.5m	1
3	Hyperspectral Data Acquisition Software	/	1
4	Portable Instrument Case	/	1
5	Reflectance Standard	30*30cm, 95% Reflectance	1
6	USB Drive	32G	1



4. ATH3010 Physical Photos



Fig. 1 Previous-generation rotary-scanning hyperspectral imager manufactured by Optosky



Fig. 2 ATH3010



Fig. 3 Software Interface of ATH3010

5. Application of Rotary-scanning Hyperspectral System



Figure 4 Combined application of hyperspectral imager and field spectroradiometer



Figure 5 ATH3010OL Field Online Continuous Hyperspectral Observation System

6. Application Cases of Hyperspectral Camera

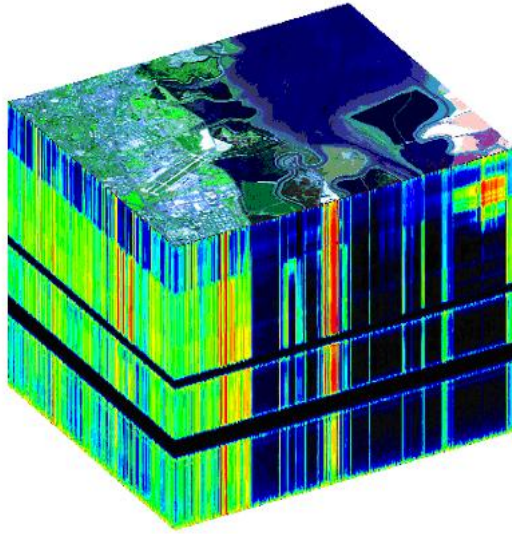


Figure 6 Data cube captured by hyperspectral imager



Figure 7 Schematic diagram of UAV mounting experiment



Figure 8 Field experiment of Optosky hyperspectral imager

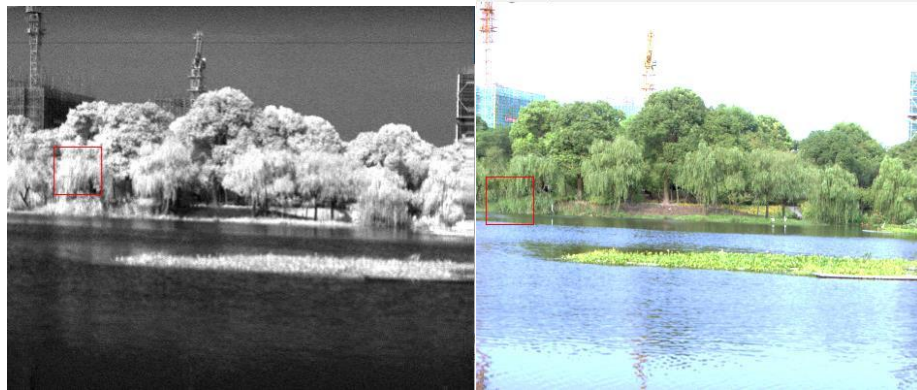


Figure 9 Field experiment scenario 3 of Optosky hyperspectral imager

6.1 Field Vegetation Test of Portable Hyperspectral Imager

Our company collects spectral data for various ground objects including field vegetation, tower cranes and land by adopting portable ground hyperspectral imagers. Spectral display, comparison and analysis are carried out based on single-band images and color images. According to single-band images, all types of ground objects present obvious discrepancies across different wavebands, and such distinctions between diverse substances can also be observed on spectral curves. The comparison diagram of final spectral curves, single-band images and color images are shown as follows.





Field hyperspectral test imaging: (a) Band 50 image; (b) Band 100 image; (c) Band 200 image; (d) RGB composite image

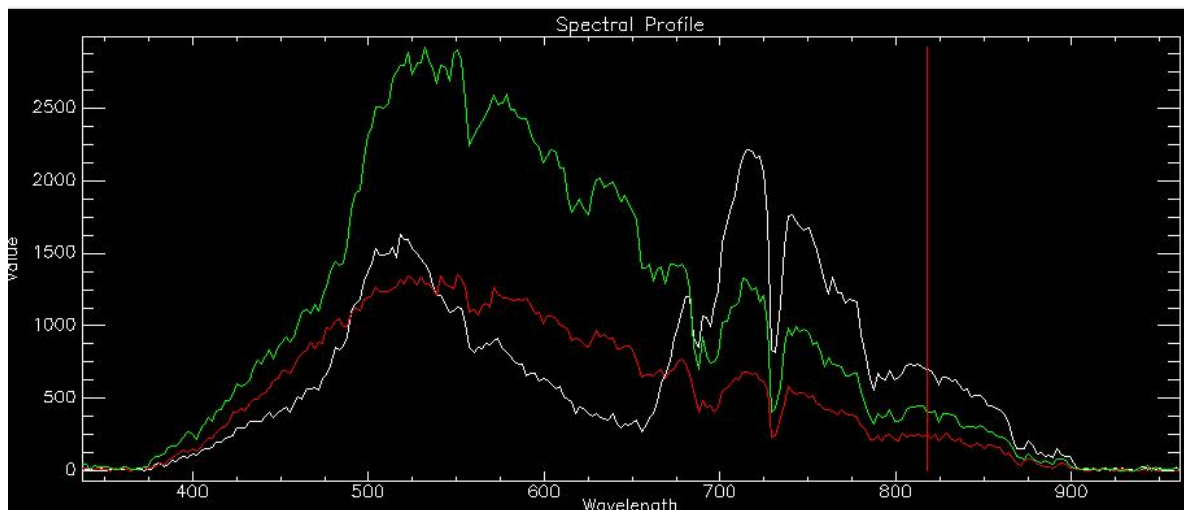


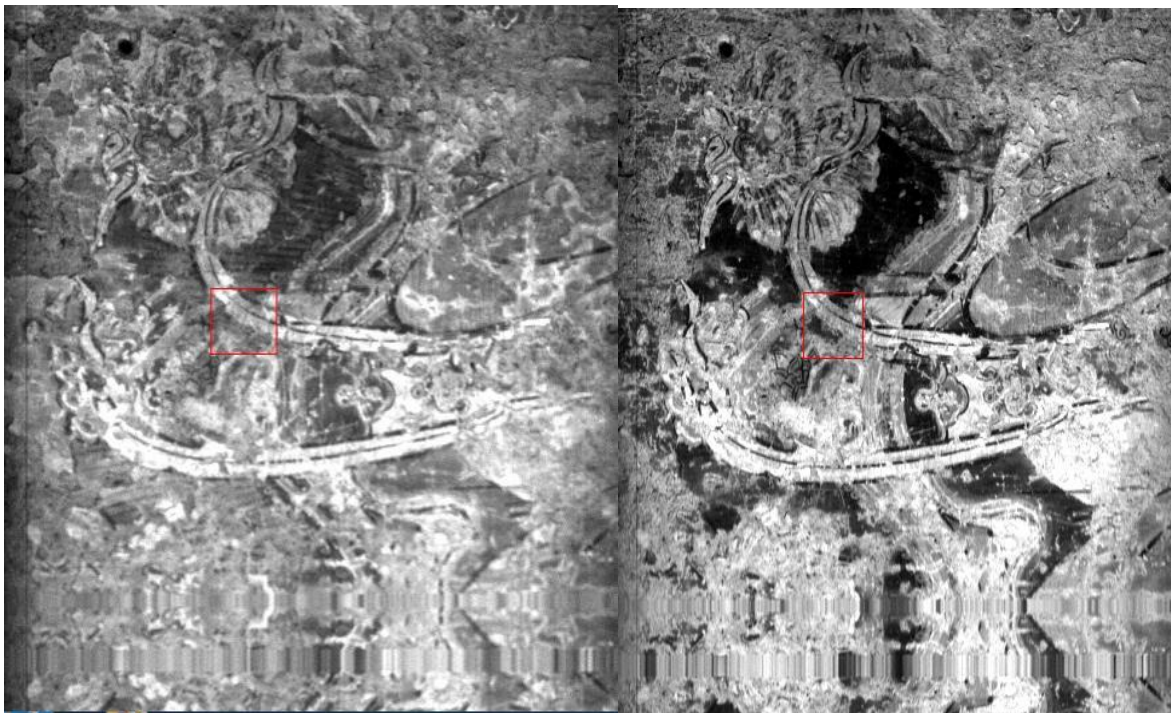
Figure 10 Comparison diagram of spectral curves

6.2 Archaeological Mural Test of Portable Ground Hyperspectral Imager

Hyperspectral technology can capture the "fingerprint spectrum" of substances, making it highly suitable for spectral image recording of antiques, murals, oil paintings and archaeological sites. The figure below presents on-site hyperspectral imaging test photos of ancient murals in a temple in Sichuan Province, as well as the final spectral band data. Through hyperspectral image analysis, our company accurately restores the original colors and overall conditions of the murals. The technology addresses issues including color fading, covered patterns and surface damage. It delivers new references for comprehensive mural research and provides vital support for cultural relic restoration, identification and conservation.



Figure 11 On-site measurement photograph



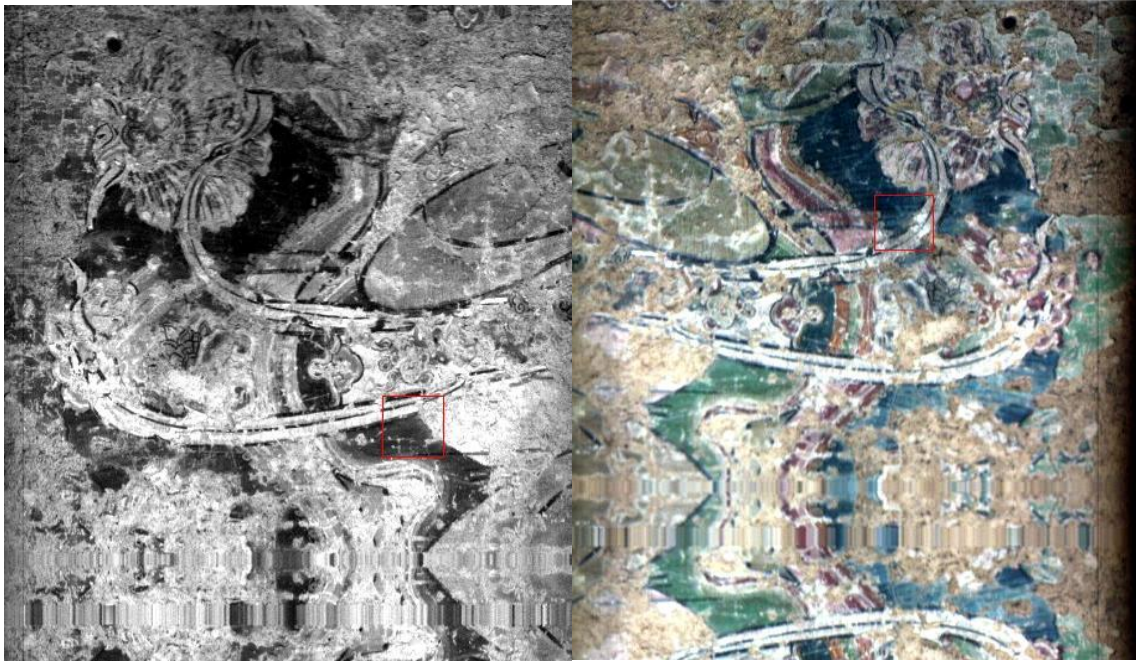


Figure 12 Hyperspectral test images of archaeological murals; (a) Band 50 image; (b) Band 150 image; (c) Band 200 image; (d) RGB composite image

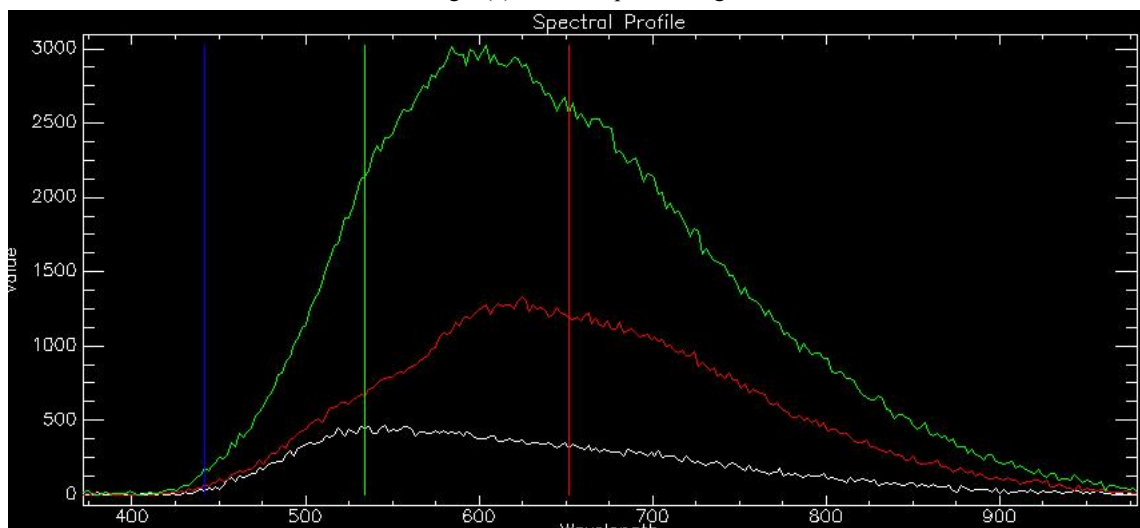


Figure 13 Comparative diagram of spectral curves

6.3 Application of Hyperspectral Imager in Identification and Grading of Corn Drought Disaster

Corn ranks among the world's most vital food crops and is China's top grain crop. Northern China serves as the major corn-producing region. Fluctuations in temperature and precipitation make drought a key factor restricting corn yield in these zones. With growing demands for refined agricultural management, accurate and efficient identification and grading of corn drought stress are of great

practical importance.

Traditional crop drought identification mostly relies on satellite multispectral remote sensing images to calculate vegetation indices for drought evaluation. Nevertheless, satellite imagery is constrained by weather conditions, satellite transit cycles and low spatial resolution, leading to unsatisfactory timeliness and precision. The advancement of unmanned aerial vehicles (UAVs) enables convenient, flexible acquisition of ultra-high-resolution remote sensing data, offering new approaches to address various agricultural challenges in recent years. Meanwhile, the development of deep neural networks, especially fully convolutional neural networks, has greatly improved the accuracy of semantic segmentation for remote sensing images.

Liu Chang from Jilin University adopted the Optosky ATP9000 UAV-mounted hyperspectral imager (renamed ATH9010 at present) and developed a deep learning semantic segmentation algorithm to identify and classify drought damage in corn.

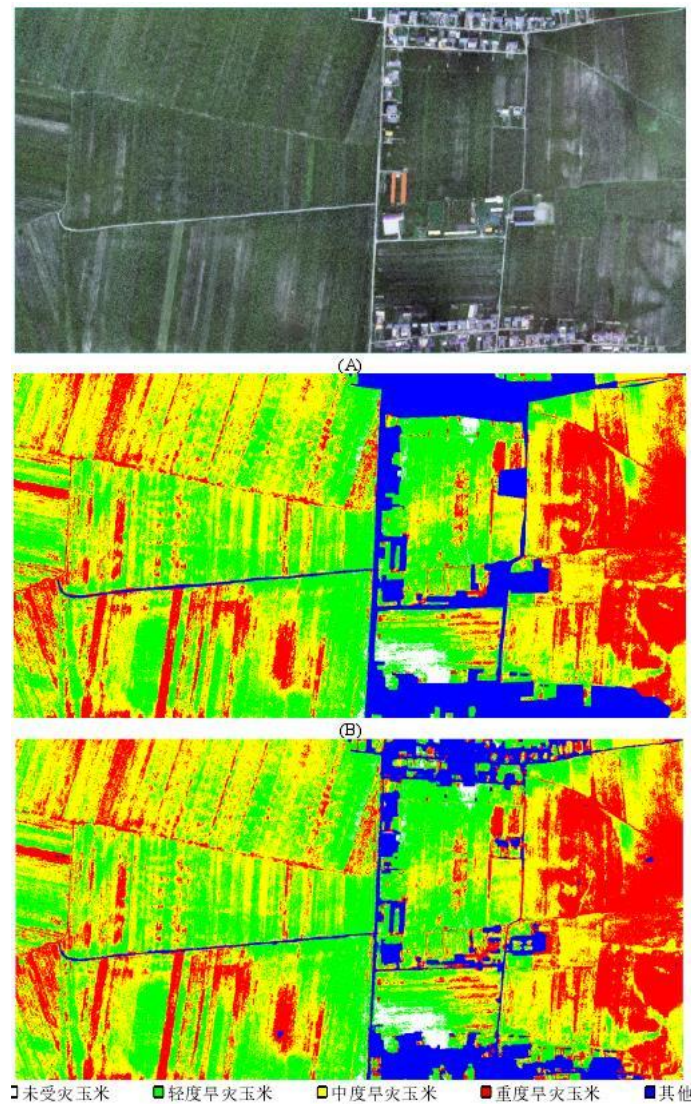


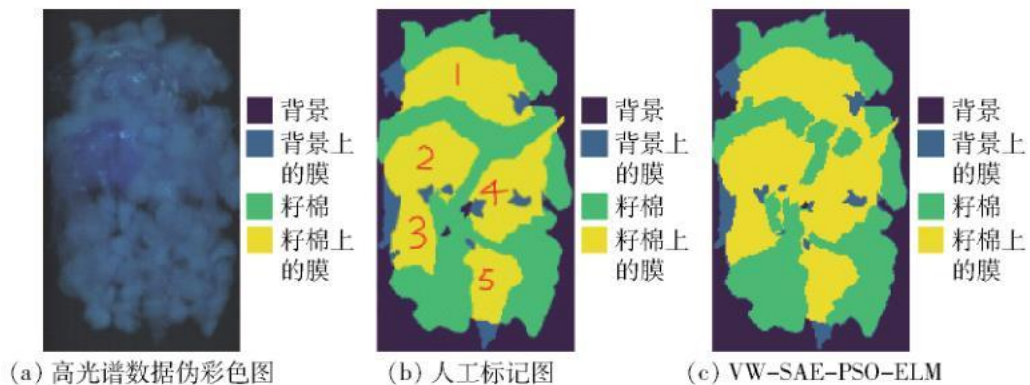
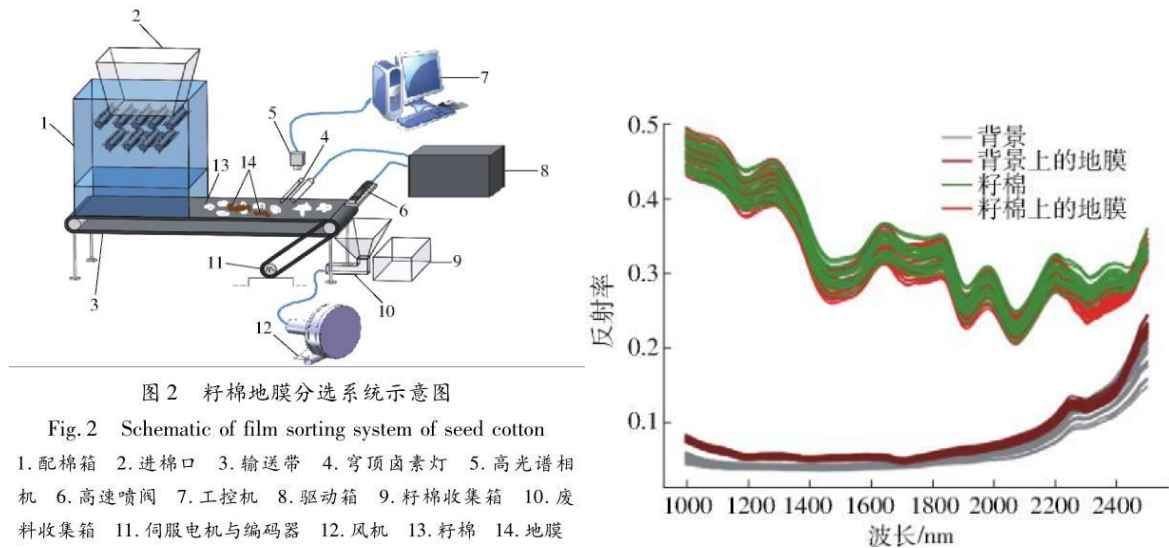
Figure 14 Liu Chang from Jilin University carried out research on corn drought grading with a hyperspectral imager. The Optosky ATP9000 UAV hyperspectral imager (currently renamed ATH9010) was adopted in the study.

With different algorithms, UAV hyperspectral imagers can detect more complex types of disasters, including waterlogging, pest infestation and hail damage. All these disasters trigger crop yield reduction and economic losses.

6.4 Application of Hyperspectral Imagers in Industrial Sorting

With the development of near-infrared hyperspectral technology, Jiang et al. adopted near-infrared hyperspectral technology to detect impurities in cotton. Particularly, short-wave near-infrared

hyperspectral technology greatly improves the detection rate of plastic films compared with conventional methods. Hyperspectral imaging technology generates image data across numerous narrow wavebands, capturing both visual and spectral information of samples during imaging. Common hyperspectral data processing algorithms include Partial Least Squares (PLS), Support Vector Machine (SVM) and Artificial Neural Network (ANN).



The external quality of apples is the most intuitive indicator, which directly affects fruit prices and consumer preferences. Focusing on difficulties and key points in apple surface inspection, detection approaches for apple external physical properties (shape and size) and common surface defects are explored based on machine vision, hyperspectral imaging and multispectral imaging technologies, combined with image processing, pattern recognition, chemometrics and spectral analysis.

The inspection systems and algorithms developed from above research lay a foundation for developing domestic rapid on-line sorting equipment for apple exterior quality using machine vision and multispectral machine vision.

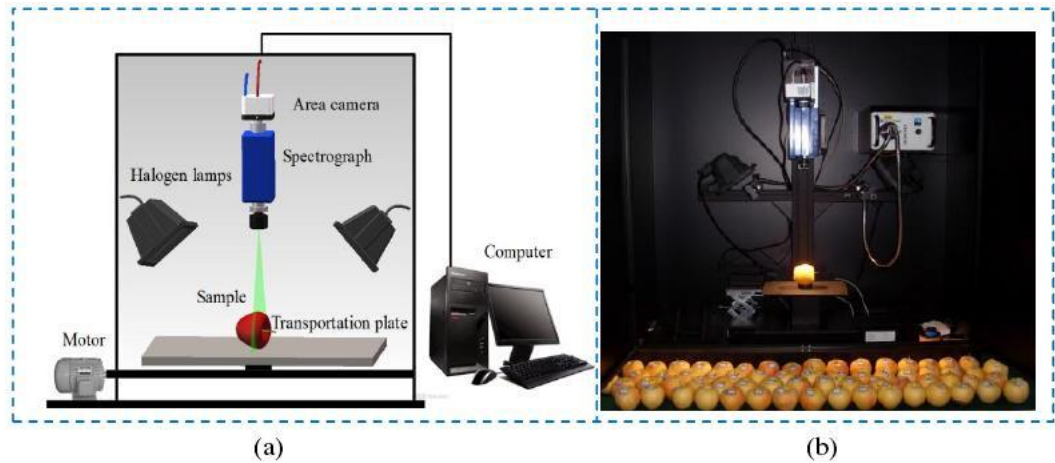


Figure 17 Schematic diagram and physical photo of the hyperspectral imaging system developed by Dr. Zhang Baohua from Shanghai Jiao Tong University; (a) schematic diagram; (b) physical photo

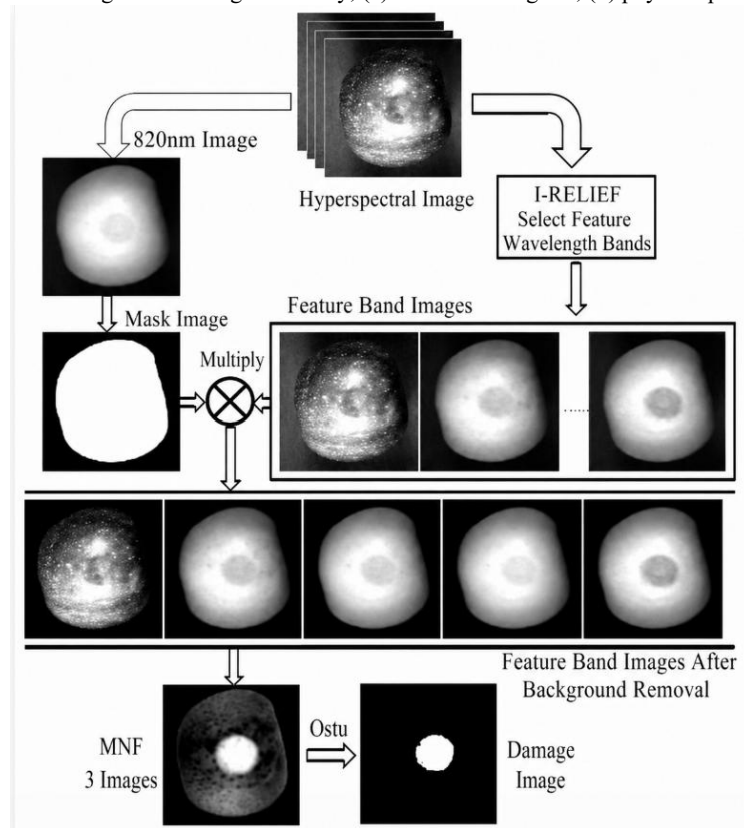


Figure 18 Flow chart of the algorithm for detecting early damage on apple surfaces

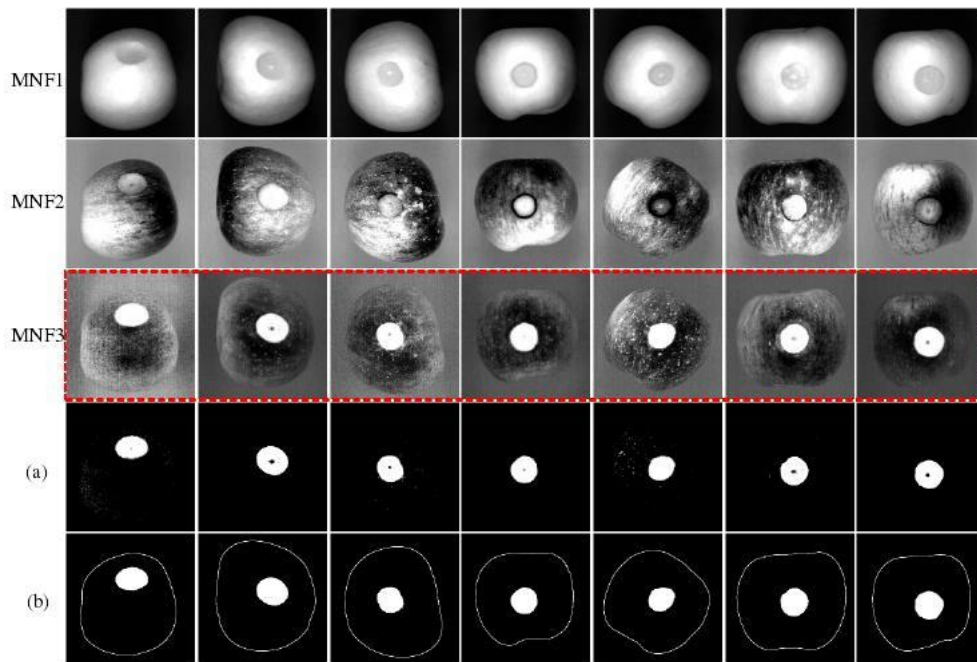


Figure 19 Recognition results of early apple rot and intermediate processing; (a) Rot segmentation result; (b) Final detection result

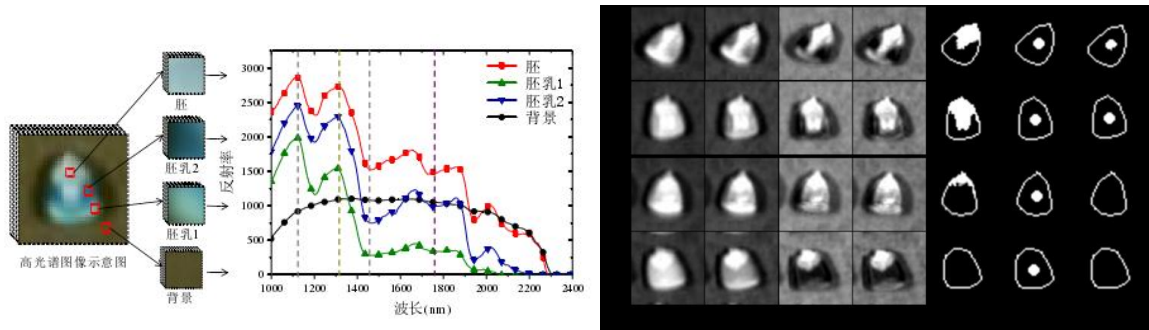


Figure 20 Application of 1000-2500 nm hyperspectral imager in corn seed sorting (Dr. Wang Chaopeng, Northwest A&F University)

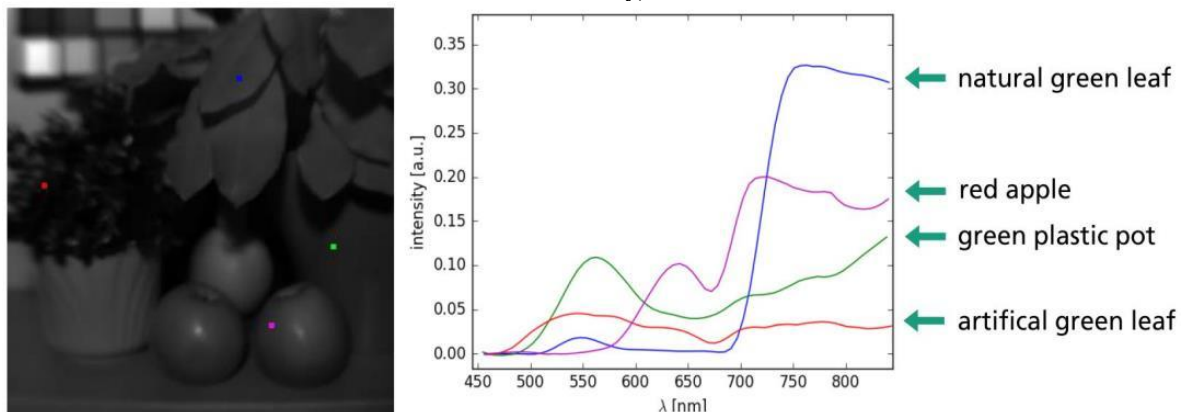


Figure 21 Spectrograms of natural green plants, artificial green leaves, green plastics and red apples

6.5 Application of Hyperspectral Imaging Technology in Precision Agriculture



Figure 22 UAV hyperspectral remote sensing system manufactured by Optosky

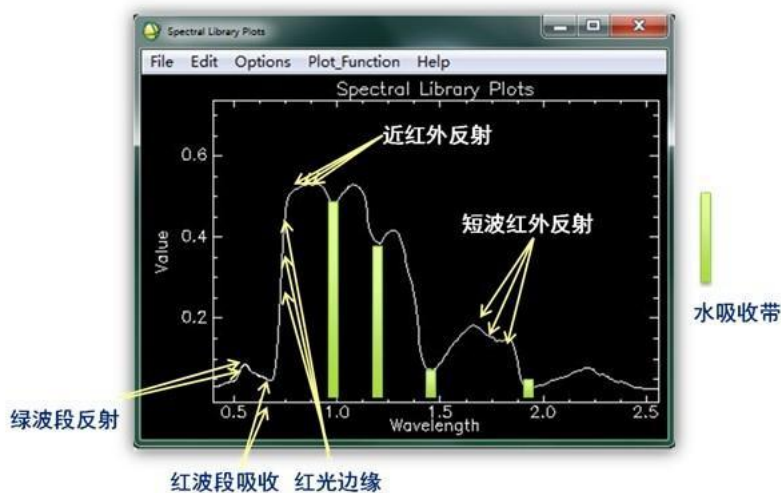


Figure 23 Spectrogram of green plants measured by hyperspectral imager

- 1) **Crop growth monitoring and yield prediction:** At different growth stages, crops differ in internal composition and external morphology due to varied external conditions. The leaf area index serves as the most prominent difference, a comprehensive index reflecting individual and group growth status of crops.
- 2) **Pest and disease control of crops:** Remote sensing can monitor crop damages caused by diseases and pests, track crop growth conditions, assess disaster losses, and detect the distribution and activity patterns of pests to realize early pest prevention.
- 3) **Crop drought monitoring:** Remote sensing monitors crop drought conditions based on crop

vegetation indices and canopy parameters.

- 4) **Monitoring of soil moisture content and distribution:** Spectral signals captured by remote sensing show obvious discrepancies under different thermal inertia. Therefore, a mathematical model linking thermal inertia and soil moisture content can be constructed. Remote sensing applies this model to analyze soil moisture content and its spatial distribution.
- 5) **Crop nutrient monitoring:** Remote sensing achieves higher accuracy in detecting nitrogen content in crops compared with other nutrient elements.

Normalized Difference Spectral Index (NDSI), Ratio Spectral Index (RSI) and Simple Spectral Index (SSI) were established using single bands and arbitrary two bands within 450–882 nm. The correlation between CGI and spectral indices was calculated, and indices with strong correlation were selected. An inversion model was built combined with Partial Least Squares Regression (PLSR). Taking CGI as the evaluation indicator, UAV hyperspectral images were adopted to monitor wheat growth across multiple growth stages in 2015. UAV hyperspectral data delivered high CGI inversion accuracy, enabling identification of overall wheat growth variations and providing references for wheat growth monitoring.

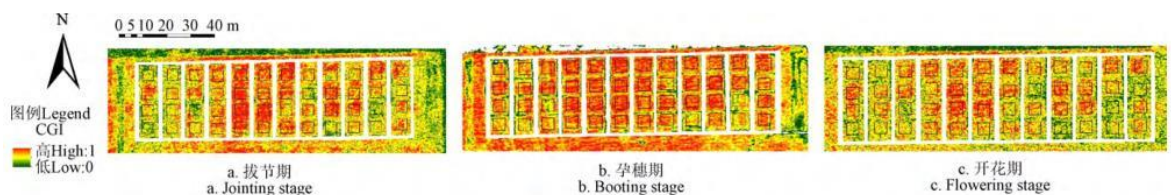


Figure 24 Inversion of wheat growth indicator CGI

6.6 Application of Hyperspectral Technology in Forest Health Assessment

It is applied to pest monitoring and forest resource evaluation.

Principle: Vegetation health is correlated with greenness index, leaf area index, leaf water content and light use efficiency.

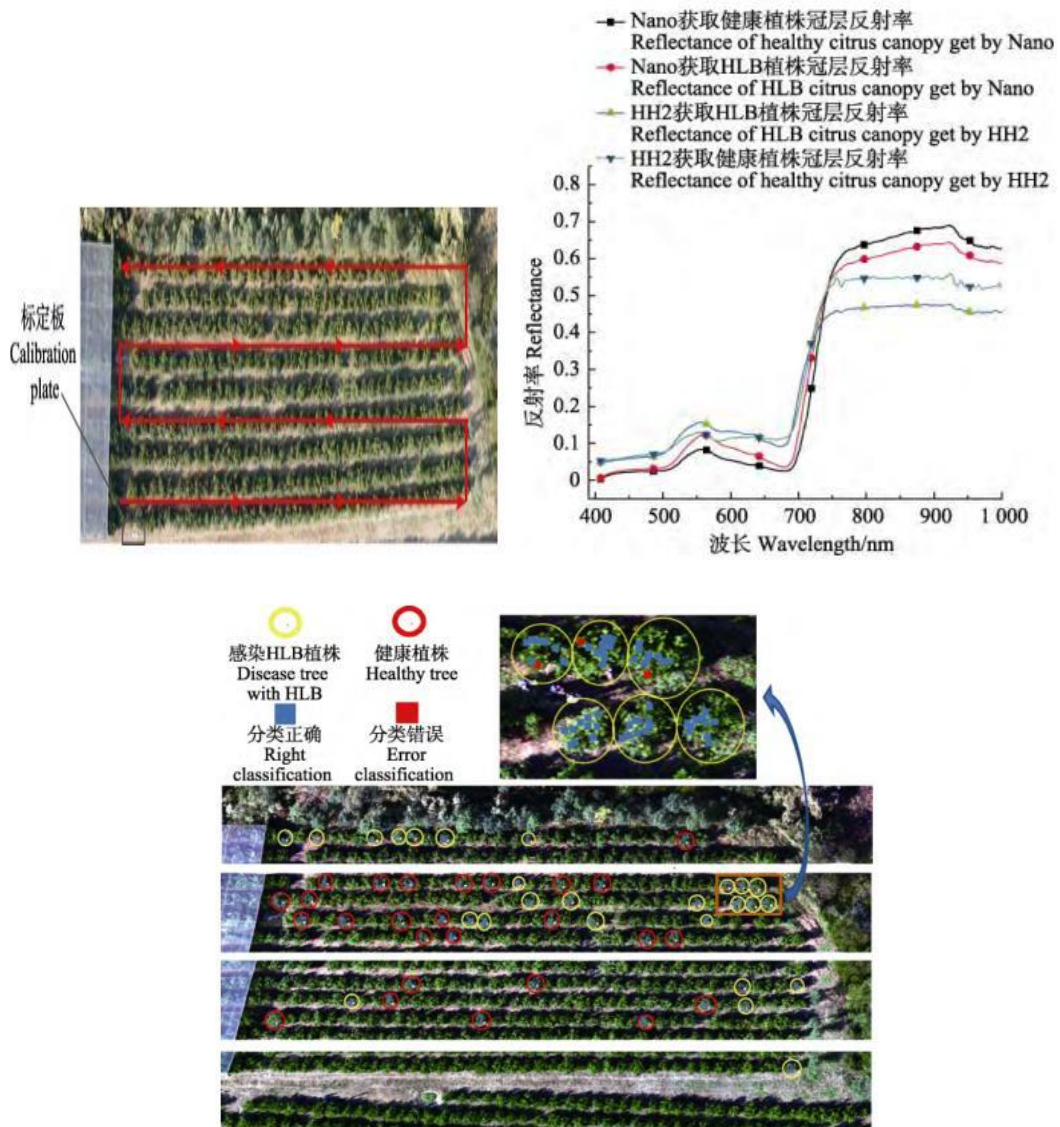


Figure 25 Monitoring and classification of citrus huanglongbing plants based on UAV hyperspectral remote sensing (designed by Lan Yubin et al., South China Agricultural University)

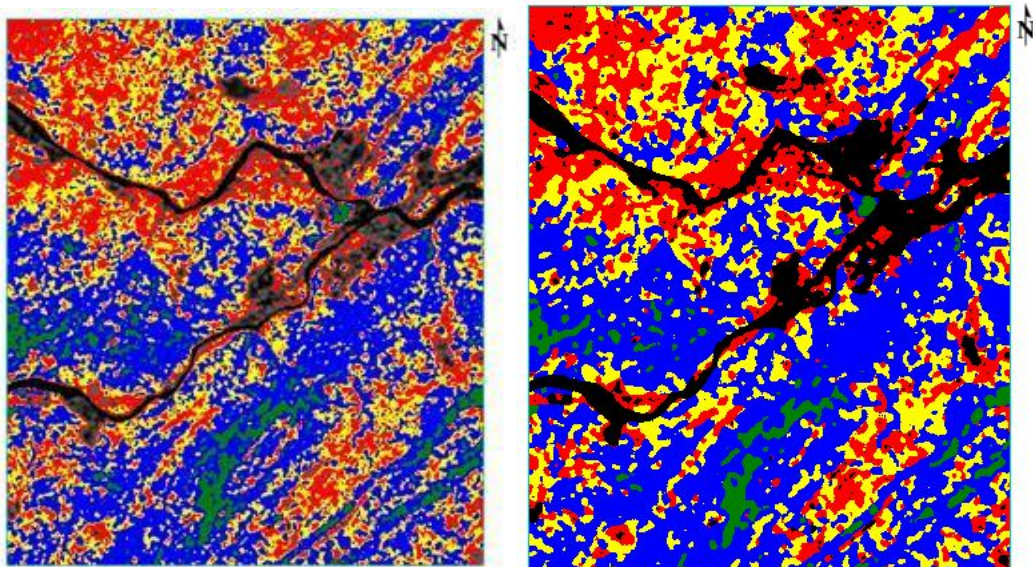
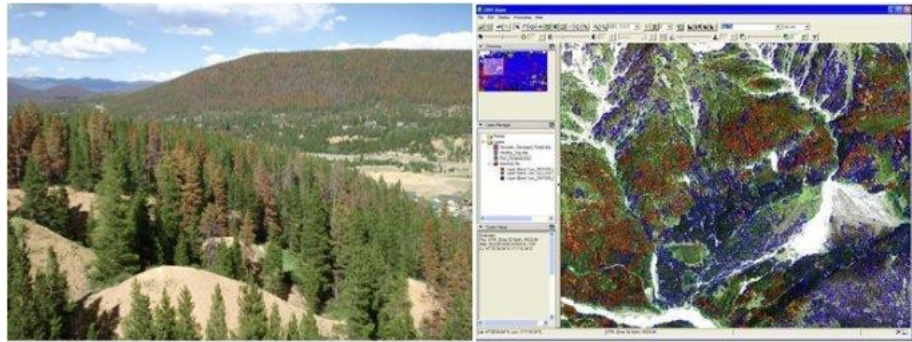


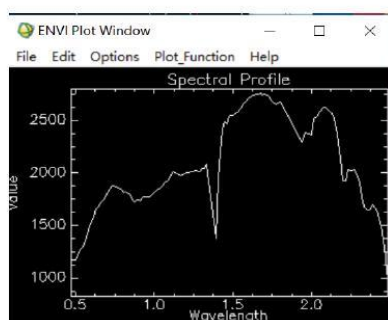
Figure 26 Distribution map of masson pine health studied by Wang Shuang from University of Electronic Science and Technology of China with hyperspectral imager

6.7 Application of Hyperspectral Imagers in Geological Exploration

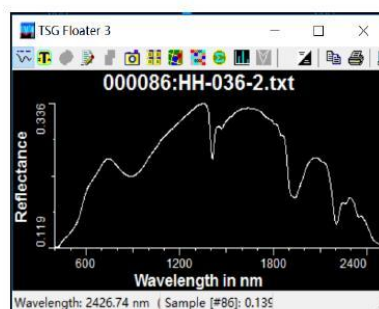
Evolved from multispectral remote sensing technologies represented by Landsat, hyperspectral remote sensing initially took shape in the mid-1980s (Goets et al., 1985; Tong Qingxi et al., 2006). Benefiting from high spectral resolution and integrated mapping-spectrum features, hyperspectral remote sensing enables precise detection and analysis of surface rock and mineral compositions over large spatial scales. It not only delivers macroscopic ground images but also identifies mineral types, abundance and even chemical compositions of certain minerals within geological bodies at the pixel level (Wang Runsheng et al., 2010). In recent years, continuous advances in hardware, data processing algorithms and software for imaging spectrometers have accelerated the adoption of hyperspectral remote sensing in geological surveys. The technology plays a vital role in geological mapping, delineation of hydrothermal alteration

zones, and identification of mineralization anomaly zones across major metallogenic belts and medium-sized ore fields (Bierwirth et al., 2002; Lian Changyun et al., 2005; Kruse et al., 2006; Cudahy et al., 2007; Wang Runsheng et al., 2010; Liu Dechang et al., 2011; Yan Bokun et al., 2014; Yang Zi'an et al., 2015; Graham et al., 2017). As metallogenic system theory (Wyborn et al., 1994) further guides mineral prospecting, targeted mineral mapping covering large ore concentration areas and metallogenic belts provides critical regional compositional data for predictive mineral exploration.

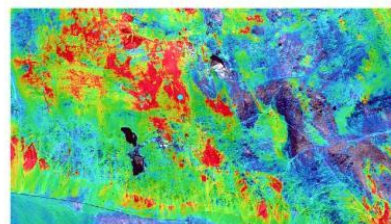
The spectral wavelength bands applied in mineral mapping cover visible light (400~700 nm), near-infrared (700~1000 nm), short-wave infrared (1000~2500 nm) and thermal infrared (7000~15000 nm). Currently, the short-wave infrared band (1000-2500 nm) sees the most extensive use in mining industries. This wavelength range matches the overtone and combination frequencies generated by chemical bond vibrations within mineral crystal lattices. Therefore, minerals containing water or hydroxyl ions (dominantly phyllosilicates and clays), as well as specific sulfates and carbonates, can be detected in the short-wave infrared region.



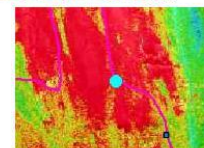
HH036 点影像光谱



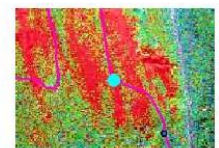
HH036 点实测光谱



绿泥石提取结果



绢云母提取结果



Fe3+提取结果

图 3-20. 绢云母矿物填图结果
HH036 点影像和实测光谱对比
已知矿床点



采样点照片



采样点远景照片

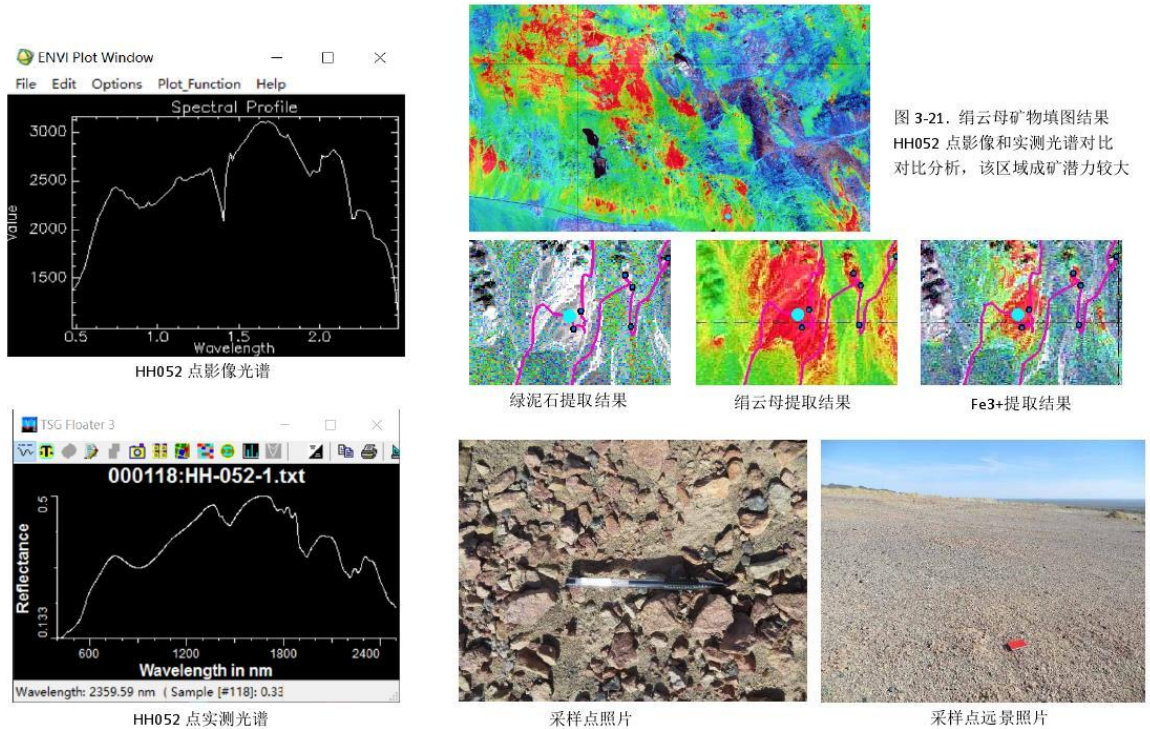


Figure 27 Application of hyperspectral imager in mineral exploration

Soil salinization is one of the major eco-environmental problems in arid and semi-arid regions. Soil salinization causes soil hardening, fertility reduction, pH imbalance and land degradation, which severely restrict agricultural development and undermine the overall sustainable development strategy of China. With the advantages of large monitoring scale, wide coverage, high timeliness and low cost, remote sensing makes up for the defects of traditional soil salinization monitoring methods and offers a new approach for quantitative monitoring of soil salinization.

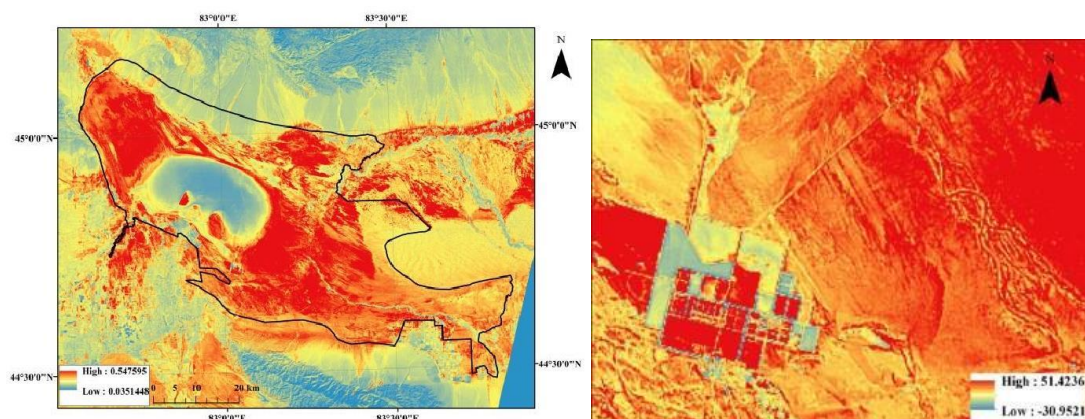


Figure 28 Areas surrounding a salt field

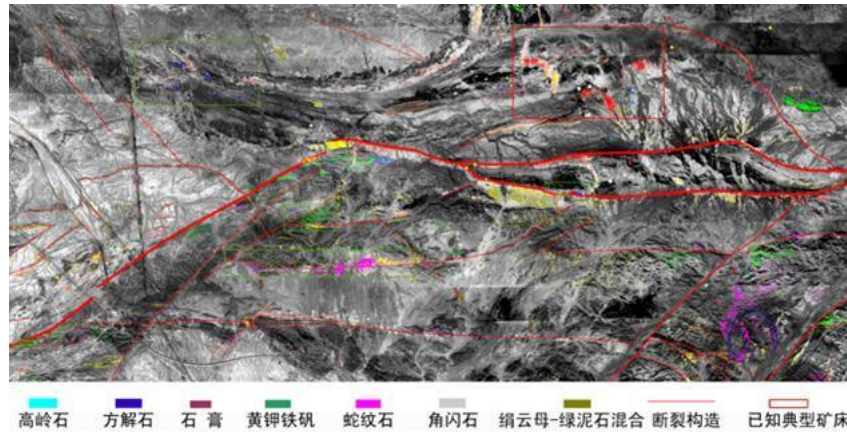


Figure 29 Survey map of a mining site

6.8 Applications of Hyperspectral Imaging in Public Safety

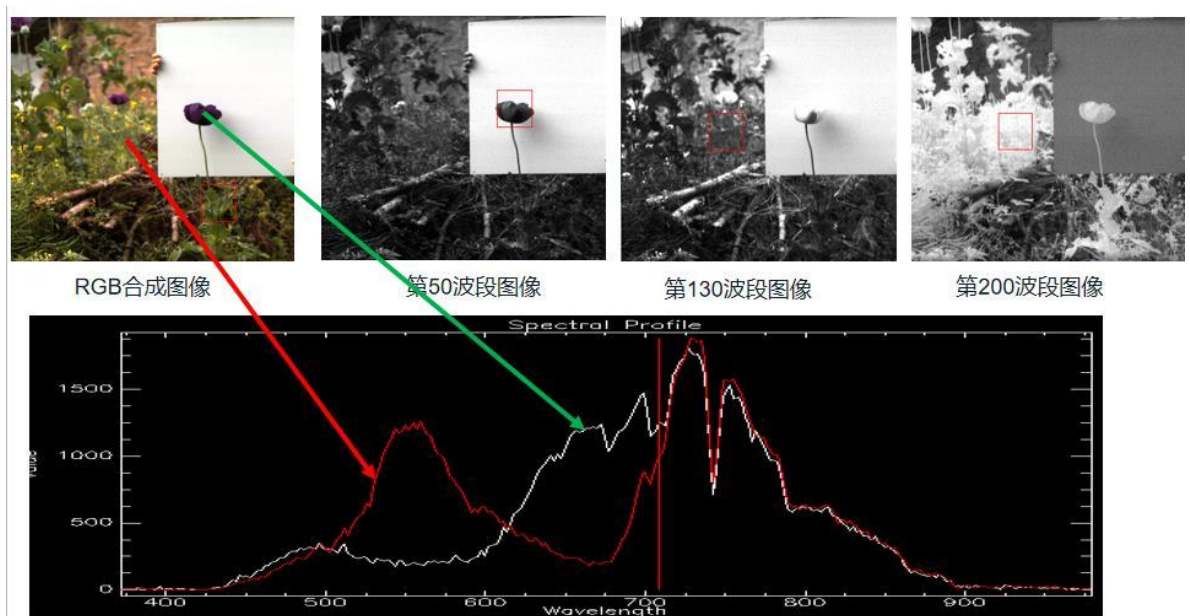


Figure 30 Application of hyperspectral imaging in detecting illegal opium poppy cultivation

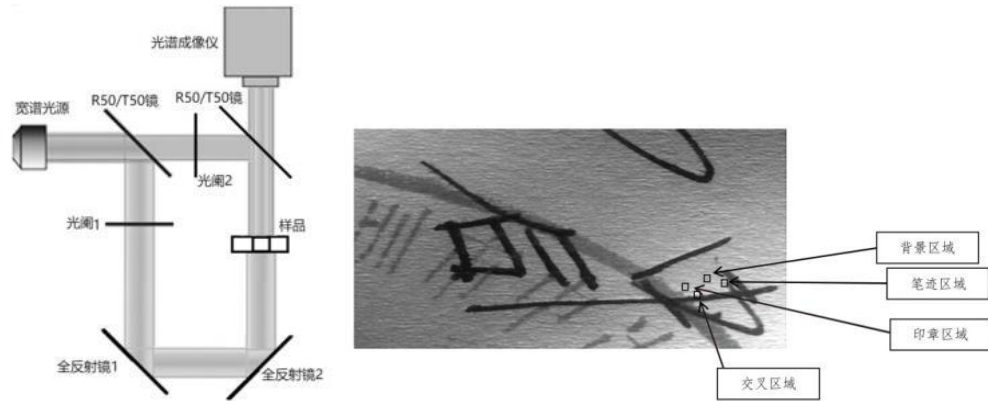


Figure 31 Application of hyperspectral imager in document inspection

6.9. Medical Microscope Imaging Spectroscopy

Application Objective: Intraoperative real-time detection and navigation during tumor surgery.

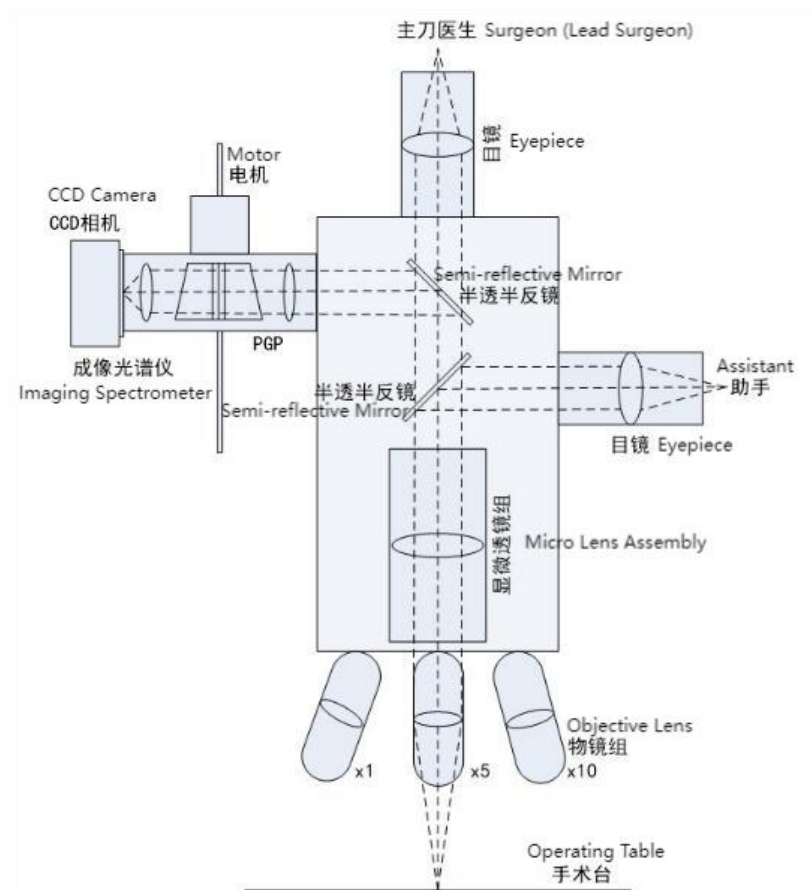


Figure 31 Schematic Diagram of Optical Path in Medical Microscope Imaging Spectrometer

The diagram illustrates the principle of a medical microscope imaging spectrometer. The target on the operating table is split into three paths after passing through the objective lens and the microscope lens group: one for the primary surgeon's visual observation, another for the assistant's visual observation, and the third to the imaging spectrometer. The imaging spectrometer scans the spatial dimensions of the target via a motor, acquiring its hyperspectral imaging data. After data analysis and image processing, the results are displayed on a monitor for the surgeon.



Figure 32 Physical Image of Medical Microscope Imaging Spectrometer

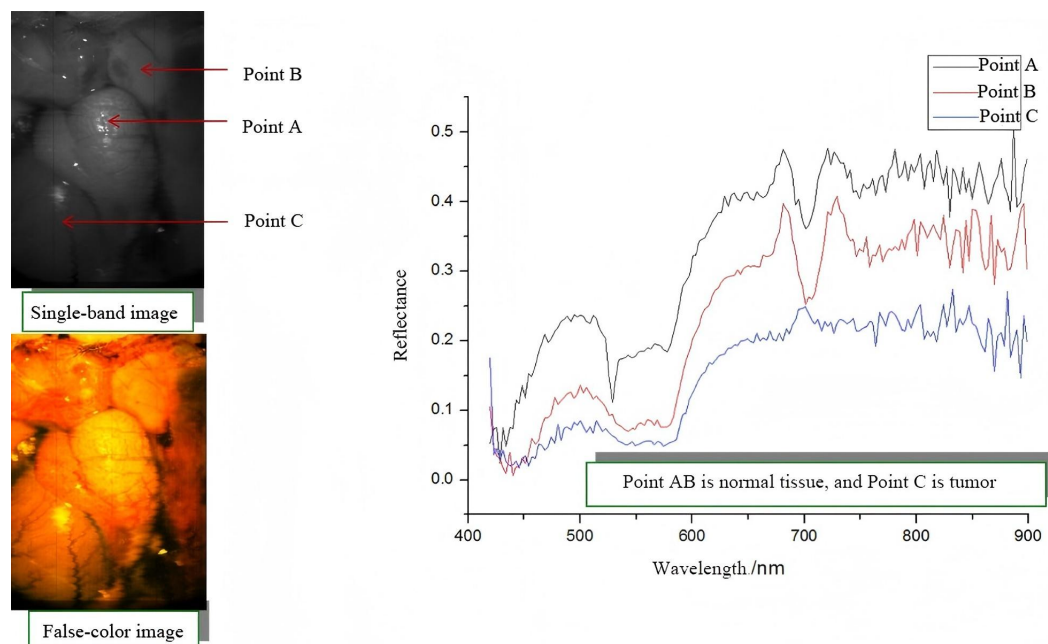


Figure 33 Spectral Data from the Medical Microscope Imaging Spectrometer

6.10. Applications of UAV Imaging Spectroscopy



Figure 34: Optosky UAV hyperspectral imaging system

Application Objective: Airborne remote sensing.

Application Overview: The figure depicts an airborne imaging spectrometer, which consists of a hyperspectral imager, a stabilization platform, and a POS module. Figures 28 and 29 show the acquired data and the pseudocolor images resulting from geometric correction, swath stitching, and radiometric calibration; Figure 29 illustrates the spectral curves of typical terrain features.

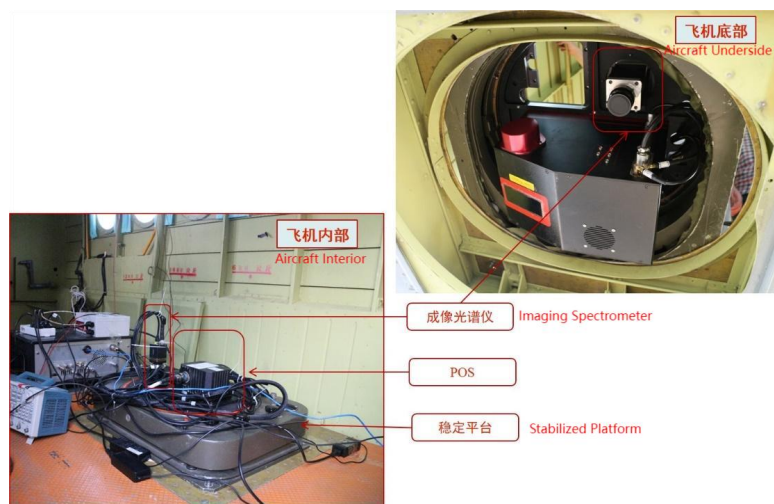


Figure 35 Applications of airborne remote sensing

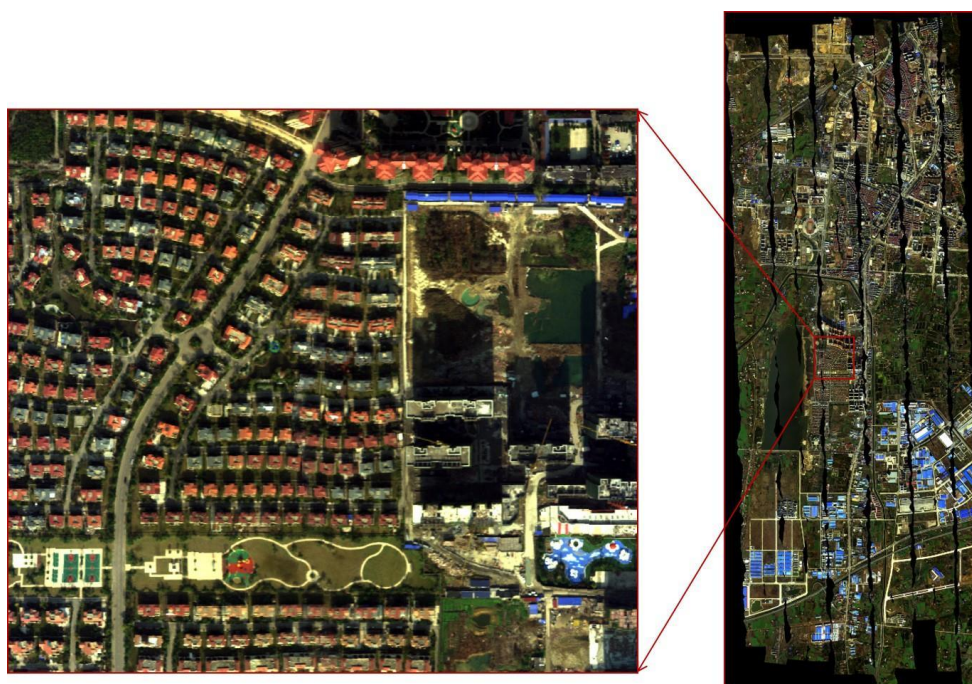


Figure 36 Airborne application data – pseudo-color image

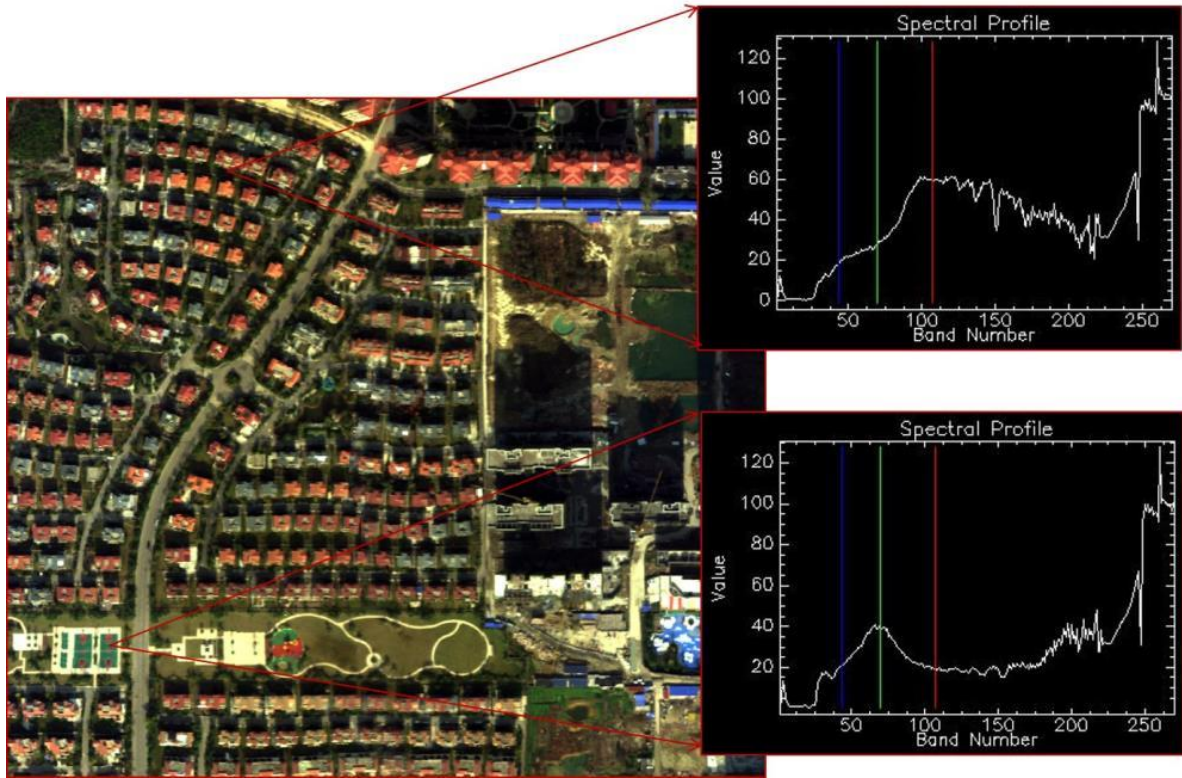


Figure 37 Airborne application data – spectral curve

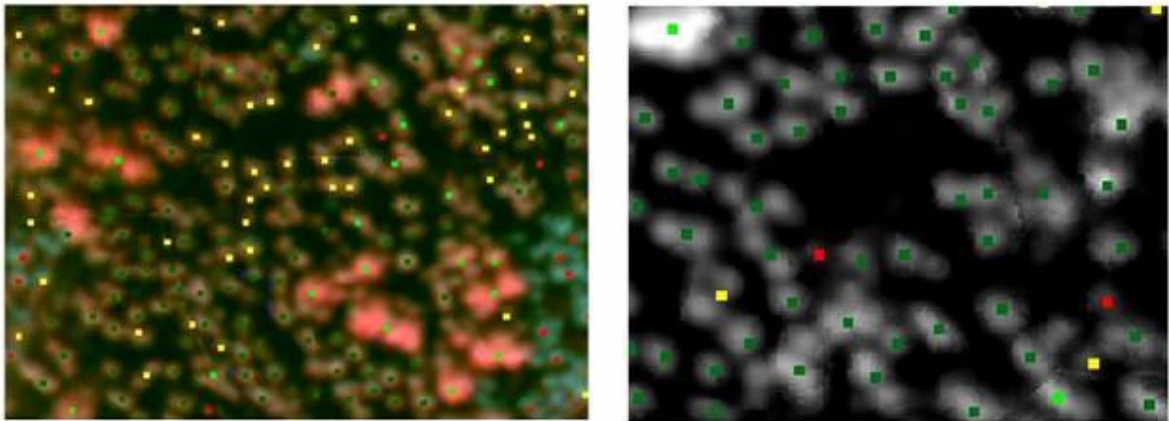


Figure 38 Forest remote sensing: airborne hyperspectral observation of forest pests and diseases

6.11 Applications of hyperspectral imagers in water quality and environmental protection

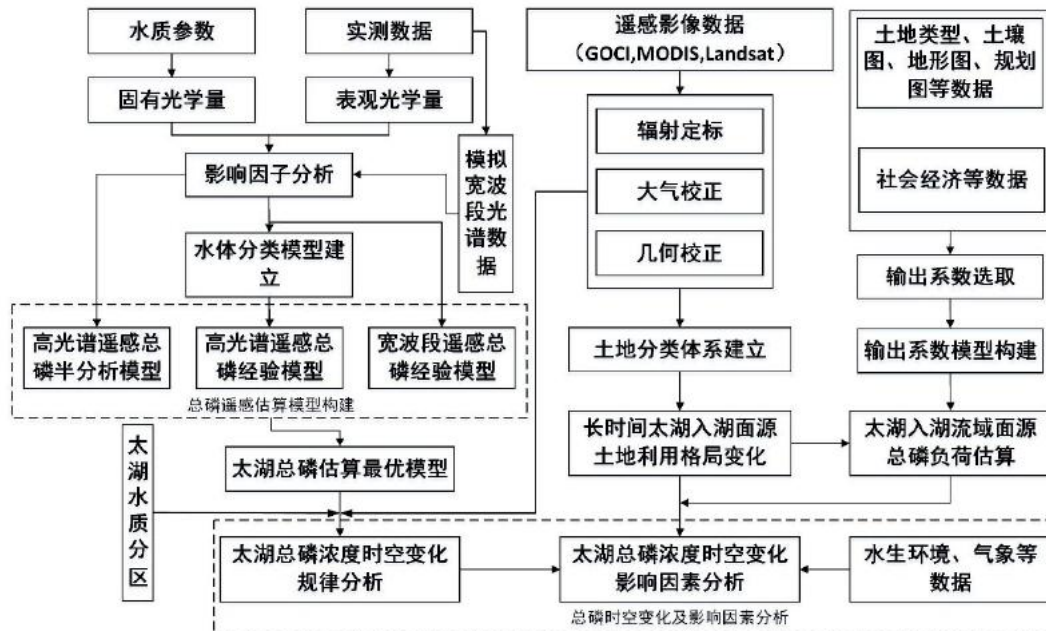
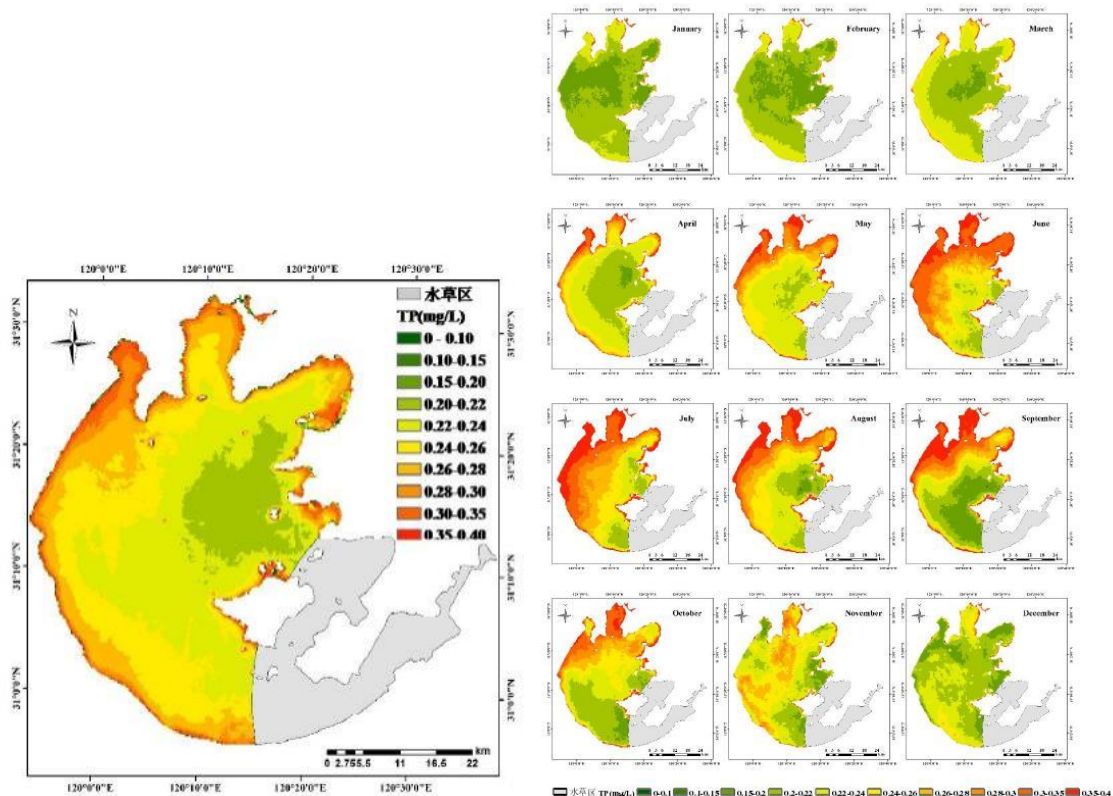


Figure 39: Algorithmic flowchart for hyperspectral data inversion



Product data information is current as of publication data. Products conform to specifications per the terms of Optosky Standard warranty.

Copyright © Optosky(Xiamen) Photonics Inc. 2015
1503 Bld. A04, 3rd Software Park, Jimei, Xiamen,
361005, China
Tel: +86-592-6102588

Figure 40 (a) Spatial distribution map of total phosphorus concentration in Taihu Lake. The spatial difference of total phosphorus concentration is prominent, with a maximum value of 0.38 mg/L and a minimum value of 0.06 mg/L; (b) Monthly variation of total phosphorus concentration in different lake zones. The total phosphorus concentration of most lake areas peaks from June to September. The total phosphorus concentrations in Zhushan Bay, Meiliang Bay and the western shore of Taihu Lake are higher than the average level of the whole lake from March to October throughout the year, distinctly exceeding those of other lake regions. The total phosphorus concentration of Gonghu Bay surpasses the lake-wide average only in June. The total phosphorus concentrations of the southern bank and open main lake of Taihu Lake remain relatively low all year round.

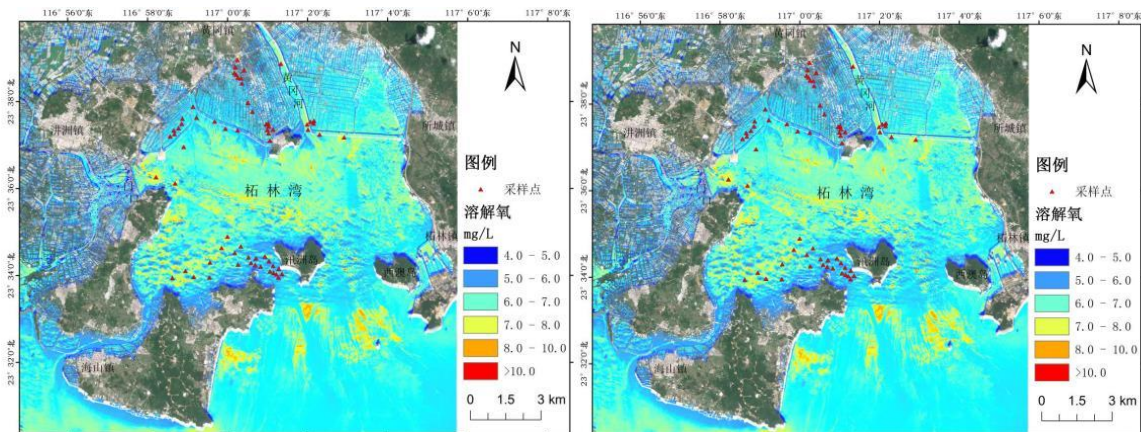


Figure 41: Distribution maps of dissolved oxygen and chlorophyll concentrations in Zhelin Bay, eastern Guangdong, obtained by hyperspectral imaging

7. Optosky Hyperspectral Cameras

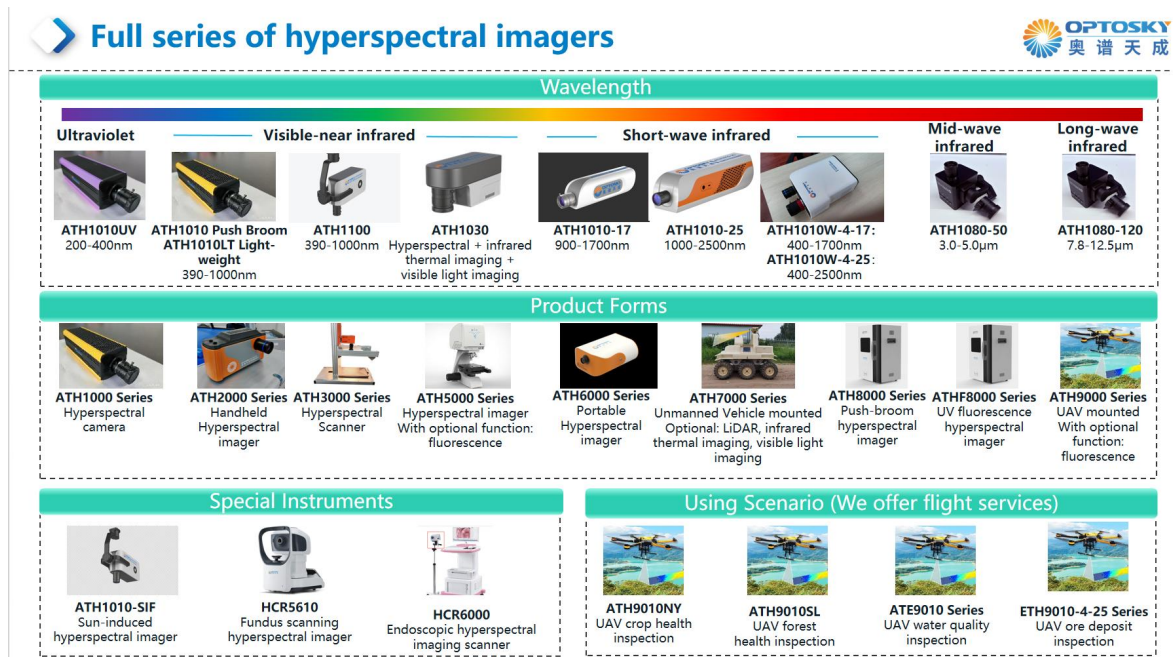


Figure 34: The hyperspectral product series produced by Optosky

8. OptoSky—Company Profile

OptoSky was founded in 2015 with group headquarters in Xiamen, a picturesque coastal city. It is a national-level key "Little Giant" enterprise featuring specialization, refinement, differentiation and innovation, dedicated to the R&D, production and sales of high-end spectral analysis instruments. The enterprise was initiated by Dr. Liu Hongfei, an international specialist in spectral instruments, who is an academician of the Russian Academy of Natural Sciences, leading talent of the National Ten-Thousand Talents Program, beneficiary of the Ministry of Science and Technology Innovation Talent Promotion Program, Class A talent under Xiamen Double Hundred Talent Program, PhD holder from Shanghai Institute of Technical Physics, Chinese Academy of Sciences and postdoctoral fellow of Xiamen University. The company devotes itself to developing globally advanced spectral analysis instruments and aims to be a top-tier international supplier of spectral instruments, evolving into a domestic pacesetter in the spectral instrument sector.

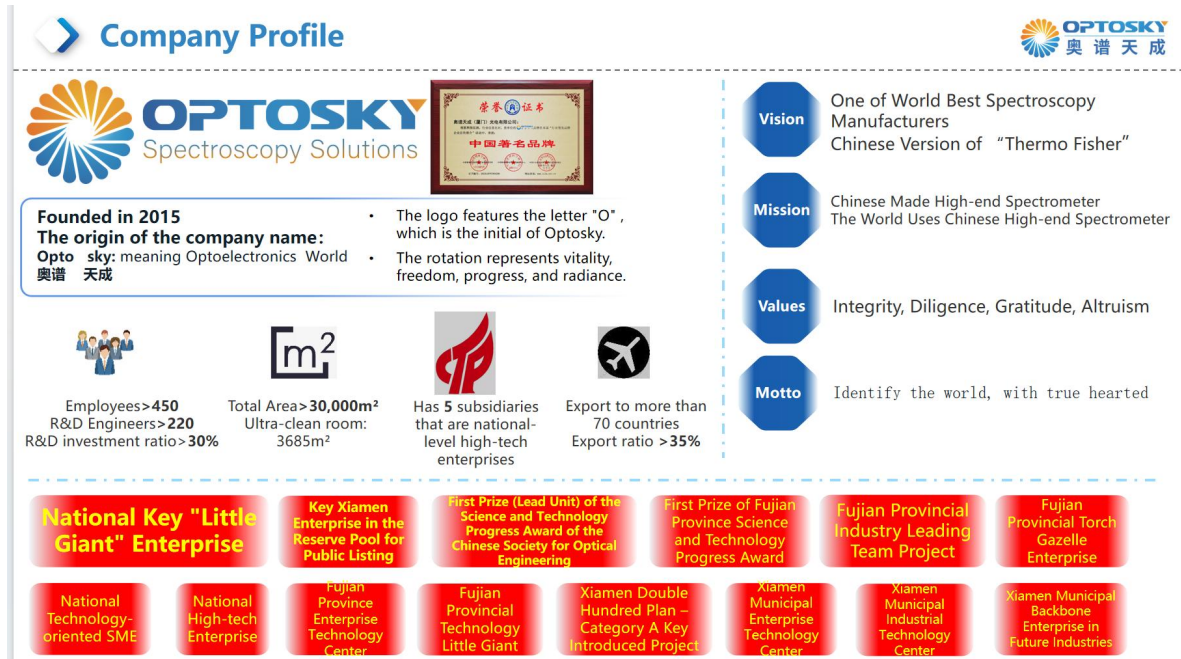


Figure 35 Group Profile



Figure 36 Dr. Liu Hongfei, co-founder of Optosky

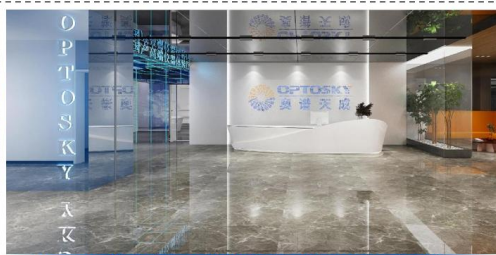
OptoSky Group owns five national high-tech enterprises. It has established multiple R&D and manufacturing bases across China in Xiamen, Changsha, Wuhan, Chengdu, Xuzhou, Wuhu and other cities. The total global office space exceeds 30,000 square meters, and the company employs more than 450 staff members, including over 220 seasoned R&D engineers. The company has filed and obtained

more than 500 intellectual property rights, among which over 100 are invention patents including two US invention patents. Currently, it undertakes more than 20 national, provincial and municipal research projects such as a major industrialization special project sponsored by the State Oceanic Administration with total funding of 30 million RMB. Meanwhile, OptoSky presides over and participates in formulating over 20 national, industrial and association standards. Standards led by the company: Near-infrared Terrestrial Object Spectrometer, Rapid Water Quality Detector Using Spectroscopy, Technical Specification for Multispectral Imaging in Smart Agriculture, Handheld Fruit Quality Detector, Technical Requirements for Medical Near-infrared Spectrometer, Portable Rapid Water Quality Detector Using Spectroscopy, etc. Standards participated in formulation: Technical Specification for Raman Spectrometer, Hazardous Chemical Detector Based on Raman Spectroscopy, Online Rapid Water Quality Detection System Using Spectroscopy, Technical Specification for Ecological Environment Monitoring System Based on Mobile or Fixed Buoys, Determination of Benzophenone Ultraviolet Absorbers in Textiles, Determination of Antifungal Performance of Textiles Part 1: Fluorescence Method, Plant Phenotype Chlorophyll Fluorescence Imaging Analysis Equipment, Technical Requirements for Plant Monitoring Using UAV Hyperspectral Remote Sensing, etc. OptoSky keeps guiding the formulation of spectral technical standards and industrial upgrading.

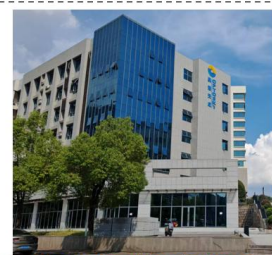
Our Offices



Optosky Technology Park (Xiamen North Station) – Under Construction



Xiamen Headquarters Base (Approx. 3,000 m², Self-owned Property)



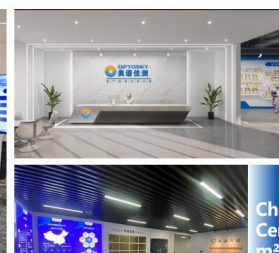
Changsha Head office (>10,000 m²)



Wuhan R&D Center (>2,000 m²)



Taizhou Manufacturing Base (>4,000 m²)



Xuzhou R&D Center (>2,000 m²)

Chengdu R&D Center (>1,300 m²)

Figure 37 Optosky National R&D Center/Smart Manufacturing Base

Product data information is current as of publication data. Products conform to specifications per the terms of Optosky Standard warranty.

Copyright © Optosky(Xiamen) Photonics Inc. 2015
1503 Bld. A04, 3rd Software Park, Jimei, Xiamen, 361005, China
Tel: +86-592-6102588

主持和参与制定的多个国家标准



Figure 38: Leading and participating in multiple national standards

Relying on its exclusive technologies including opto-mechatronics integration, spectral analysis, weak photoelectric signal processing and cloud computing, OptoSky has built a full-spectrum product portfolio with Raman spectrometers as flagship products, covering fiber spectrometers, hyperspectral imagers, field spectroradiometers, infrared spectrometers, fluorescence spectrometers, spectrophotometers and LIBS instruments. These products are widely adopted in scientific research, semiconductor, new energy, biomedicine, chemical pharmacy, public security, smart agriculture, military industry and other fields, ranking among the world's top tier in both product performance and brand influence. Its products are sold to more than 70 countries and regions worldwide. OptoSky is the top Chinese optical instrument brand in Russia, among the top three high-end optical instrument brands in the Middle East, and one of the fastest-growing Chinese brands in Europe and America. The company has realized domestic substitution and export breakthroughs for high-end spectral instruments.

Product Lines

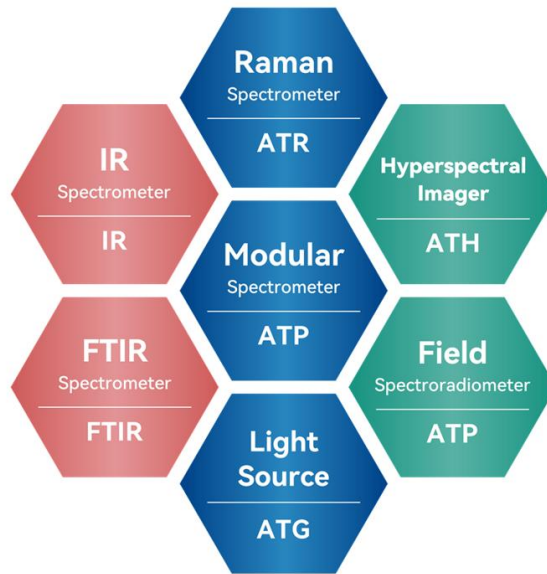


Figure 39: Main Product Series and Application Areas

OptoSky bases its development on technology, follows market demands and prioritizes customers, delivering outstanding solutions and high-quality products and services for numerous industries. Widely recognized by governments at all levels and the industry, the company has acquired more than 300 innovation patents, software copyrights, qualification certifications and domestic and international honors in total.

The enterprise holds multiple accreditations and honors including National Key Specialized, Sophisticated, Unique and Innovative Little Giant Enterprise, Key Pre-listing Enterprise of Xiamen, Leading Industrial Talent Team of Fujian Province, Xiamen Industrial Technology Center, Fujian Gazelle Enterprise, Class A key introduction project of Xiamen Double Hundred Talent Program and National High-tech Enterprise. It has also been awarded Xiamen Specialized, Sophisticated, Unique and Innovative Enterprise, Xiamen High-tech, High-growth and High-value Key Enterprise and Xiamen High-tech Enterprise.

Partial Honors Obtained by OptoSky:

- August 2025: Won the first prize in the final of the New Generation Information Technology Industry Group, Sichuan Division, the 14th China Innovation and Entrepreneurship Competition 2025
- July 2025: Approved as a Postdoctoral Innovation and Entrepreneurship Practice Base
- July 2025: Listed as a national-level key Specialized, Sophisticated, Unique and Innovative Little Giant enterprise
- March 2025: Approved for the Changsha Expert Workstation
- September 2024: Selected as a national-level Specialized, Sophisticated, Unique and Innovative Little Giant enterprise
- June 2023: Named a key pre-listing enterprise of Xiamen
- May 2023: Included in the Leading Industrial Talent Team Program of Fujian Province
- 2023: Accredited as Xiamen Industrial Technology Center
- 2022: Dr. Liu Hongfei elected an academician of the Russian Academy of Natural Sciences

- 2022: Recognized as a Fujian Torch Gazelle Enterprise
- 2022: Certified as a Fujian technology-based small and medium-sized enterprise
- December 2021: Its Raman spectrometer won the Second Prize of Fujian Provincial Science and Technology Progress Award
- 2021: Dr. Liu Hongfei selected for the National Ten-Thousand Talents Program organized by the Central Organization Department 2021: OptoSky awarded Fujian Provincial Science and Technology Little Giant Enterprise
- 2020: Dr. Liu Hongfei included in the Innovation Talent Promotion Program of the Ministry of Science and Technology
- 2020: Led the formulation of the national industrial standard Visible and Near-Infrared Field Spectroradiometer
- 2020: Dr. Liu Hongfei certified as Class B high-level talent of Fujian Province 2019: Certified as a national high-tech enterprise
- 2019: Honored the Independent Innovation Gold Medal issued by China Instrument and Control Society
- 2019: Recognized as a Specialized, Sophisticated, Unique and Innovative micro and small enterprise in Xiamen
- 2018: Won Excellent Enterprise Award in the National Final of the 7th China Innovation and Entrepreneurship Competition
- 2018: Received the second prize in Xiamen Division, the 4th China Innovation and Entrepreneurship Competition
- 2018: Won Silver Award in Fujian Division and Bronze Award in National Final of the 5th World New Materials Innovation and Entrepreneurship Competition
- 2016: Included in Class A key high-level talent introduction project (highest tier), the 8th Xiamen Double Hundred Talent Program
- Listed on Strait Equity Exchange Market, Stock Code: 865147
- Certified compliant with ISO9001:2015 Quality Management System

- Participated in formulating national standards Raman Spectrometer and Hazardous Chemical Detector Based on Raman Spectroscopy Technology
- Undertaken the major marine economic collaborative innovation project Research, Development and Industrialization of Marine Three-Dimensional Monitoring Sensors and Systems sponsored by State Oceanic Administration with total funding of RMB 30 million
- Established strategic partnership with School of Electronic Science and Engineering, Xiamen University since 2017
- Served as undergraduate internship base and joint postgraduate training institution of Xiamen University of Technology since 2016
- Served as undergraduate internship base and joint postgraduate training institution of Jimei University since 2017
- Member unit of Fujian Young Entrepreneurs Association; director unit of Xiamen Young Entrepreneurs Association
- Implementation entity for industry-university-research cooperation projects of Xiamen
- Member unit of Xiamen Emergency Association

9. Contact Us

Company Name: Optosky (Xiamen) Optoelectronics Co., Ltd.

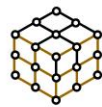
Address: 5th Floor, Building F02, Phase III of Xiamen Software Park, Jimei District, Xiamen

Phone 4008-508-928, **0592-6102588**

Web site: www.optosky.com

mail: sales@optosky.com

China market and Global Distributors



Exported to
>70 countries



>260
Distributors



36%
share

=====The Essence of Exploration • Dedication to Authenticity=====

=====End of Article=====