

Optosky (Xiamen) Photonics Inc.

ATGX310 series

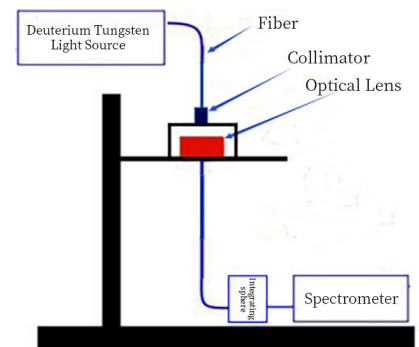
Optical Film Thickness Measuring Instrument



Description

The optical film thickness measurement system uses the principle of the interference of the reflected light of the film to measure and analyze the thickness of the film. It is very suitable for measuring the film thickness of optical components such as semiconductors, LCDs, TFTs, PDPs, LEDs, touch screens, automobile lights, medicine, solar energy, polymer films, and glasses.

Working Principle



Feature

The optical film thickness measurement system uses the principle of the interference of the reflected light of the film to measure and analyze the thickness of the film. It uses light with the widest wavelength range of 200-1700nm to be incident on the surface of the film perpendicularly. As long as the film has a certain degree of transmission, ATGX310 can calculate the thickness of the film according to the reflected interference spectrum fitting, and the maximum measurement range can reach 10nm~ 250um, can test up to 3 layers of film thickness at the same time. The core components use the ATP3010P high-resolution, high-sensitivity spectrometer, and a CCD array of up to 4096 pixels, which provides a reliable guarantee for the accuracy of the measurement results.

There is no more time-consuming benchmark calibration, no more time wasting to warm up the light source, you only need to connect the ATGX310 to the USB port of the computer, 4000 hours of light source, and built-in spectral calibration means almost no maintenance cost, more Means accurate measurement. The unique dark chamber structure allows you to accurately measure in any bright environment.

Optical system

- Standard deuterium halogen combined light source
- Collimated lighting, integrating sphere receiving
- Receiver: Miniature fiber optic spectrometer
- Wavelength range: 200-1100
- Measuring range: 0-100%

Technical parameter

- Wavelength accuracy $\pm 0.5\text{nm}$
- Wavelength repeatability $\leq 0.2\text{nm}$
- Spectral bandwidth 1nm
- Stray light $\leq 0.05\%$
- Transmittance accuracy $\pm 0.5\%$
- Repeatability of transmittance $\leq 0.5\%$

Specifications

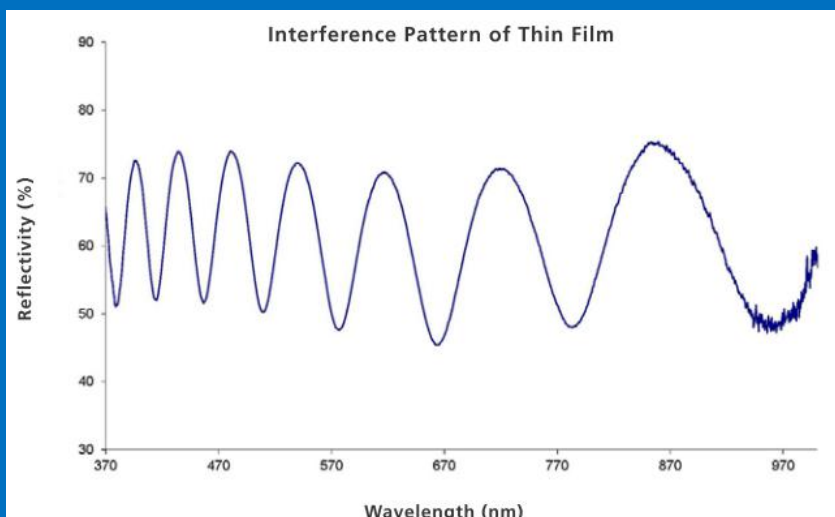
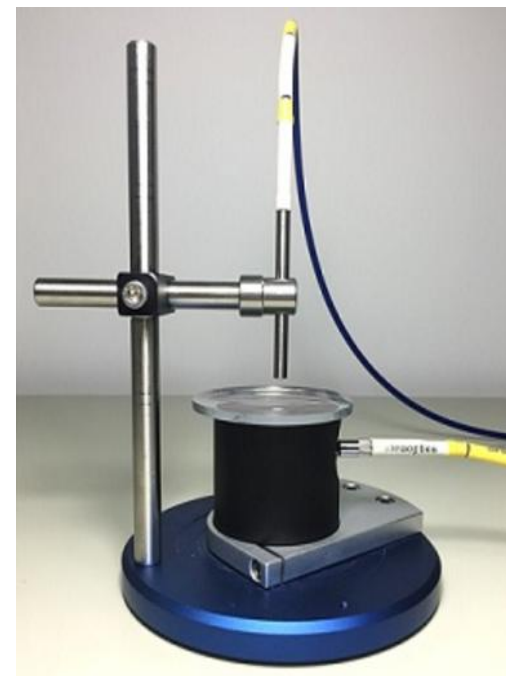
Application



- Glasses, sunglasses, anti-sneak protective film
- Various optical components, filters, etc.
- Flat glass and plastic products
- Mobile phone display, LCD screen
- Other transparent or translucent materials

Experimental setup

Optical coating thickness measurement based on miniature optical fiber spectrometer (ATP3010P), R3 measurement stand (R3), deuterium halogen light source (ATG1020), fiber collimator (FIBH-2-UV) and ultraviolet fiber (FIB-600-UV) system.



ATGX310 Parameter Table				
Model	ATGX310-VIS	ATGX310-XR	ATGX310-DUV	ATGX310-NIR
Wavelength	400-850nm	250-1060nm	190-1100nm	900-1700nm
Thickness Range	50nm-20um	10nm-100um	1nm-100um	100nm-250um
Thickness Resolution	0.1nm	0.1nm	0.1nm	0.1nm
Repeatability	0.3nm	0.3nm	0.3nm	1.0nm
Incident angle	90°	90°	90°	90°
Number of layers	Up to 10 layers	Up to 10 layers	Up to 10 layers	Up to 10 layers
Sample	Transparent or translucent film	Transparent or translucent film	Transparent or translucent film	Transparent or translucent film
Measurement mode	Reflection and transmission	Reflection and transmission	Reflection and transmission	Reflection and transmission
Rough film thickness measurement	Yes	Yes	Yes	Yes
Measuring speed	Shortest 1ms	Shortest 1ms	Shortest 1ms	Shortest 1ms
On-line?	Yes	Yes	Yes	Yes
Spot size	200um /400um	200um/400um	200um/400um	200um/400um
	Customize:100um	Customize: 100um	Customize: 100um	Customize: 100um
Microscope match	Yes	Yes	Yes	Yes
CCD imaging	Yes	Yes	Yes	Yes
Scan selection	150mmX300mm	150mmX300mm	150mmX300mm	150mmX300mm
	xy Scanning platform	xy Scanning platform	xy Scanning platform	xy Scanning platform
Vacuum compatible	Yes	Yes	Yes	Yes

Company Profile

Optosky company is a first-class spectroscopy solution provider, with the headquarter locates in the 7th floor of the research institute of the Chinese Academic of Science at an area of 2500 square meter in Xiamen city where successfully held the international 9th BRICK summit in 2017. The subsidiary company locates in Wuhu city with an area of 2035 square meters.

The company founder Dr. Hongfei, Liu graduated Doctor degree from the Chinese Academic of Science and postdoctoral degree from Xiamen University, by integrating both of top Universities' spectroscopy technology background into Optosky company aiming at developing the leading spectroscopy equipment in the world.

The company bases on unique technologies of Optomechatronics, Spectroscopy Analysis, Process Weak Optical and Electrical Signals, Cloud Computing, and have been developed wide products line of the competitive Raman spectroscopy instruments, micro spectrometer, hyperspectral imager, field spectroradiometer, fluorescence spectroscopy, LIBS etc. Driven by advanced technologies and products, Optosky brand has been well-known to customers all over the world.

Optosky company base on technology innovation, market-driven direction, customer first, provides first-class products and services, and one-stop solutions to many fortune 500 companies in many industries. The company received praise from different industry companies, as well as many innovative intellectual properties, software copyright, qualification certification, and winner awards over hundred numbers.

Optosky receives top class A introduced the high-tech company to international Xiamen city, the national high-tech and new innovative technology company award. The founder Dr. Hongfei Liu receives the innovation talent award by the ministry of science and technology.

The company is currently conducting the exclusive project of major industrialization national oceanic administration with a total fund of five million us dollars. The company in charge of drafting national industry standard of VNIR and SWNIR Field Spectroradiometer, and six national standard drafters, including China National Standard Drafter for Hazmat detector based on Raman spectroscopy, China National Standard Drafter for Buoy-type Monitor eco-environment, China National Standard Drafter for water quality monitor in the unmanned boat, China National Standards drafter for online water quality monitor by spectroscopy, China National Standard Drafter for UV-absorbent measure fabrics.

The company has over 70 IPs and over 20 innovative patents.

The company received ISO9001:2015 certification, CE certification, Police Administration Certification, FDA approval compliant, IQOQPQ compliant.



Figure 1 Optosky (Xiamen) Photonics Inc. Company Headquarter

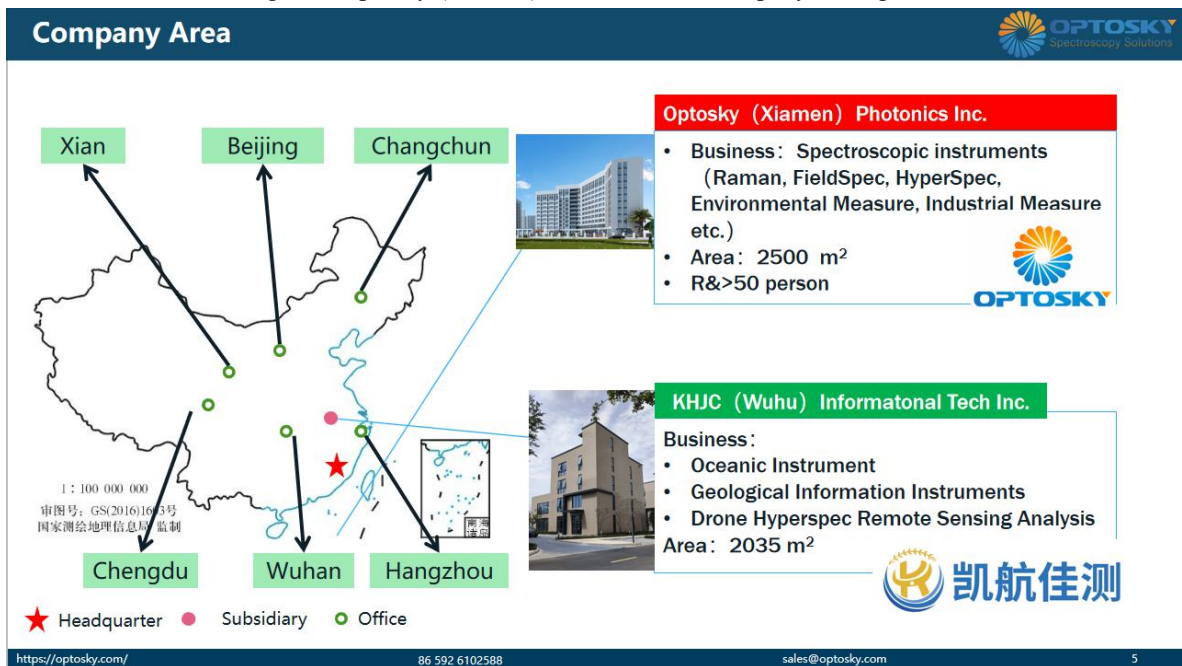


Figure 2 Optosky Company Area

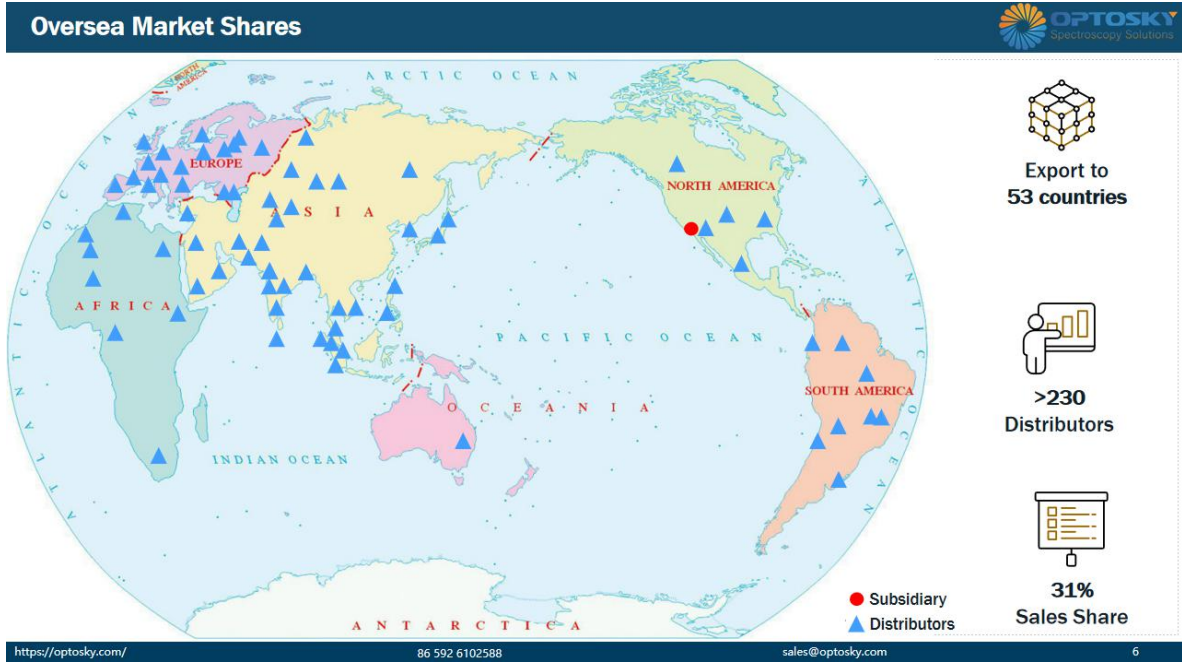


Figure 3 Oversea Market Shares



Figure 4 Optosky Chair and Draft National Standards Lists.

Qualification



 ISO9001:2005	 GB/T 23001 Informationization & Innovation	 CE, RoHS, LVD 17 models	 Police Approval 11 models
 GB/T 29490 IP implementation	 5 Innovative patents	 35 patents new utility design	 32 Software copyright

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14

Figure 5 Qualification

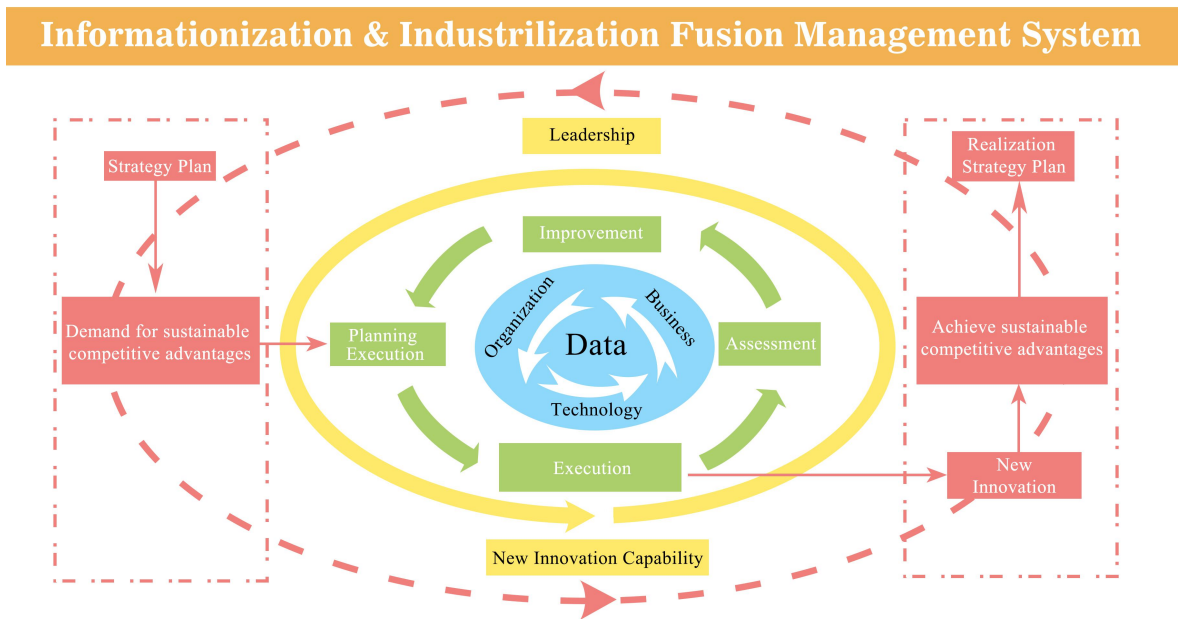


Figure 6 GB/T 23001_ Informationization & Industrilization Fusion Management System

Co-Founder—Dr. Hongfei Liu



Postdoctoral Hongfei Liu

- Selected "Innovative Talent" by Science and Technology ministry
- Top Class A Talent by Xiamen City
- CCTV Science & Technology Interview
- Fortune 500 experience in Agilent, II-VI

Honors

- Selected by science & technology ministry as "Innovation Talent"
- CCTV Science & Technology Interview
- Top Class A Talent credited by Xiamen City
- **Innovation Hero**

Education

- PhD • Chinese Science of Academic • Prof. Gui-Lin Chen, Originator in spectroscopy
- Postdoctoral • Xiamen University • Prof. Zhong-Qun Tian guided by the SERS founder M.Fleischmann

Career

- Engineer → R&D Manager → GM
- **Agilent**, Leader of instrument, Fortune 500 company, Job: engineer
- II- VI Incorporated (Nasdaq: IIVI) leader in optical & electrical industries, Job: GM of Instrumentation and Automation

Academic

- University graduate tutor
- obtain more than 60 IPs, more than 10 Innovation patents;
- Publish more than 20 papers, 2 recorded SCI, 8 recorded EI



Selected "Innovative Talent" by Science and Technology ministry



Top Class A Talent by Xiamen City



Founder & Tutors

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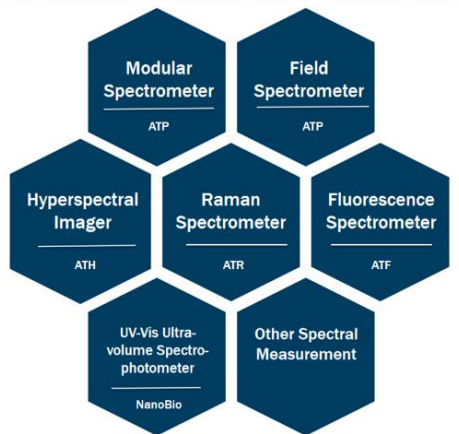
9

Figure 7 Optosky's Co-founder_Dr. Hongfei Liu

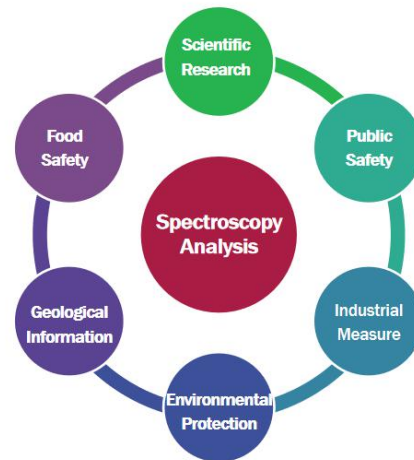
Category & Application



Category



Application




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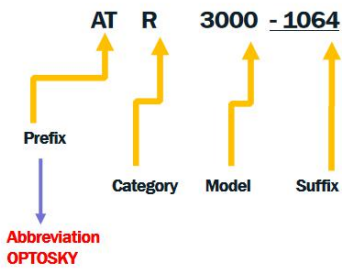
15

Figure 8 Category & Application

Model Name Rule


Model Name Rule:

- Prefix
- Category
- Model
- Suffix



- **ATR** - Raman Spectrometer
- **ATP** - Micro Spectrometer
- **ATH** - Hyperspectral Imager
- **ATF** - Micro Fluorescence Spectrometer
- **ATL** - LIBS
- **ATW** - Water
- **ATE** - Environment Protect
- **ATFD** - Food Safety
- **GA** - Public Safety (**Gong An**)
- **GF** - Gas Monitor (**Gas Finder**)
- **GY** - Industrial Monitor (**Gong Ye**)

eg:

- Raman Microscope: ATR8300MP-1064
- Hyperspectral Imager: ATH9500

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16

Figure 9 Model Name Rule