

## Built-in Pulsed Xenon Driver Spectrometer

# ATP2002

### FEATURES

- Built-in Pulsed Xenon Driver
- Fiber input, Signal Output line at one side for better integration
- Detector: Linear CMOS
- Pixel size: 2048pixels
- Max spectral range: 180-1180 nm
- Spectral resolution: 0.01-2 nm
- Optical Path: crossed CT
- Integration times: 2ms-130s
- Supply voltage: DC 5V (USB Power)
- 16 bit, 2MHz A/D Converter
- Interface: USB2.0 (High speed)
- 20-pin, double-row, programmable, extendable connector

### APPLICATIONS

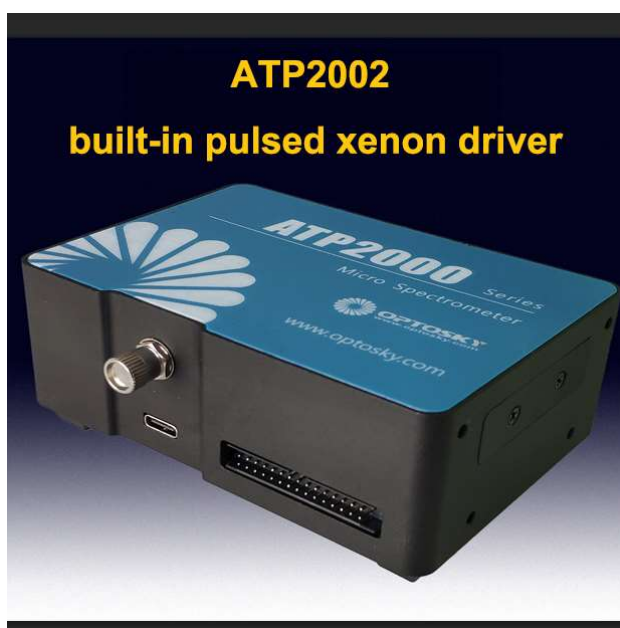
- Spectrophotometer
- Environment Instrument (exhaust gas and water quality)
- Transmittance, reflectance detection
- Spectral analysis/radiation spectrophotometry analysis
- laser wavelength measure

### GENERAL DESCRIPTION

ATP2002 micro spectrometer is a low noise high-performance, miniature fiber-optic Spectrometer. Its sensor is a 2048 pixel CCD which responds from 200-1100 nm.

ATP2002 is perfect for fast detection attribute to its high A/D converter frequency and the high speed data transmission. In ATP2000P memory chip, some algorithms to improve the performance are programmed solidly, such as wavelength calibration coefficients, linearity coefficients. It output the spectrum data to PC through USB 2.0 or RS232 interface.

ATP2002 operates with a single +5VDC supply supplied from USB or duo-pin interface



## Specifications

Detector	
Type	Linear array detector
Detectable range	200-1100 nm
Effective pixel	2048
Pixel dimension	14μm×200μm
Sensitivity	1300 V/(lx·s)
Dark noise	13 RMS @ 13 ℃
Optical Parameter	
Wavelength range	200-1100 nm
Optical resolution	0.2-5 nm
Signal-to-noise	>600:1
Dynamic range	8.5 x 10 <sup>7</sup> (system); 2000:1 for a single acquisition
Stray light	<0.05% at 600 nm; <0.09% at 435 nm
Working temperature	-25-50 ℃
Working humidity	< 90%RH
Optical Configuration	
Optical Design	f/4 crossed asymmetrical Czerny-Turner
Focal Distance	40 mm for incidence / 60 mm for output
Incidence slit	50 μm (25, 100 um are optional)
Incident Interface	SMA905 connector
Electrical Parameter	
Integration time	0.1 ms - 256 second
Interfaces	USB 2.0
A/D conversion resolution	16 bit
Supply voltage	DC4.5 to 5.5 V (type @5V)
Operating current	170mA@Typ.
Storage temperature	-30℃ to +70℃
Operating temperature	-25-50 ℃
Physics Parameter	
Dimension	102×72×34 mm <sup>3</sup>
weight	0.2 kg
Sealing	Anti-sweat

## 4. Company Profile

Optosky company is a first-class spectroscopy solution provider, with the headquarter locates in the 7<sup>th</sup> 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 9<sup>th</sup> 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.

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

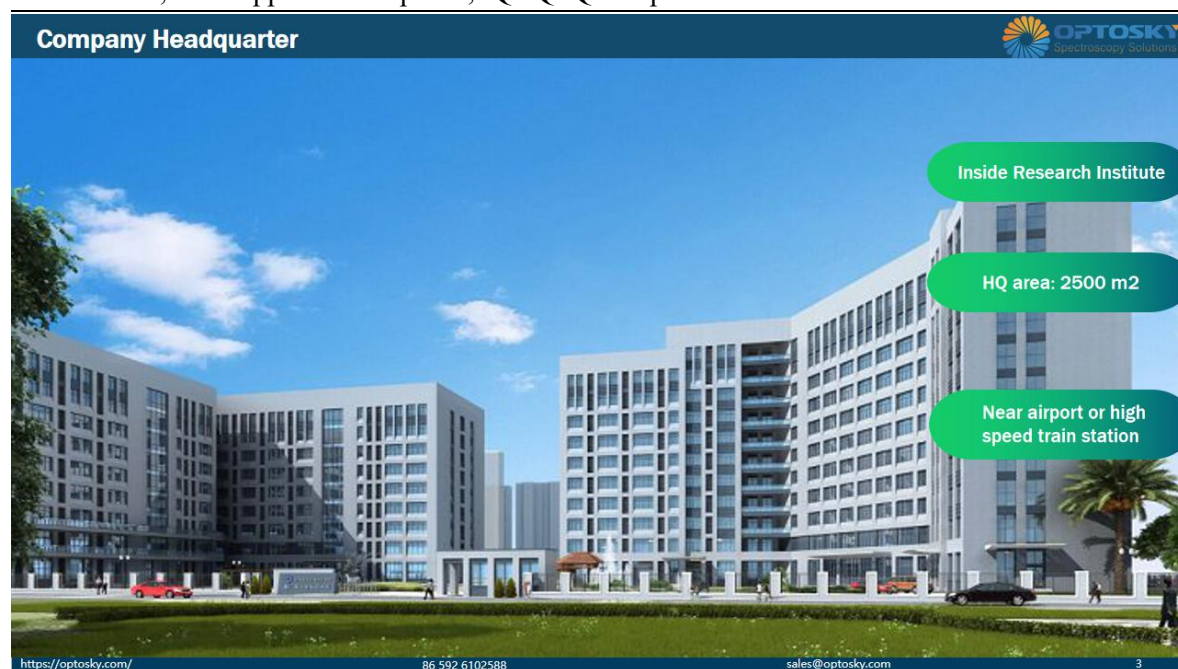


Figure 1 Optosky (Xiamen) Photonics Inc. Company Headquarter

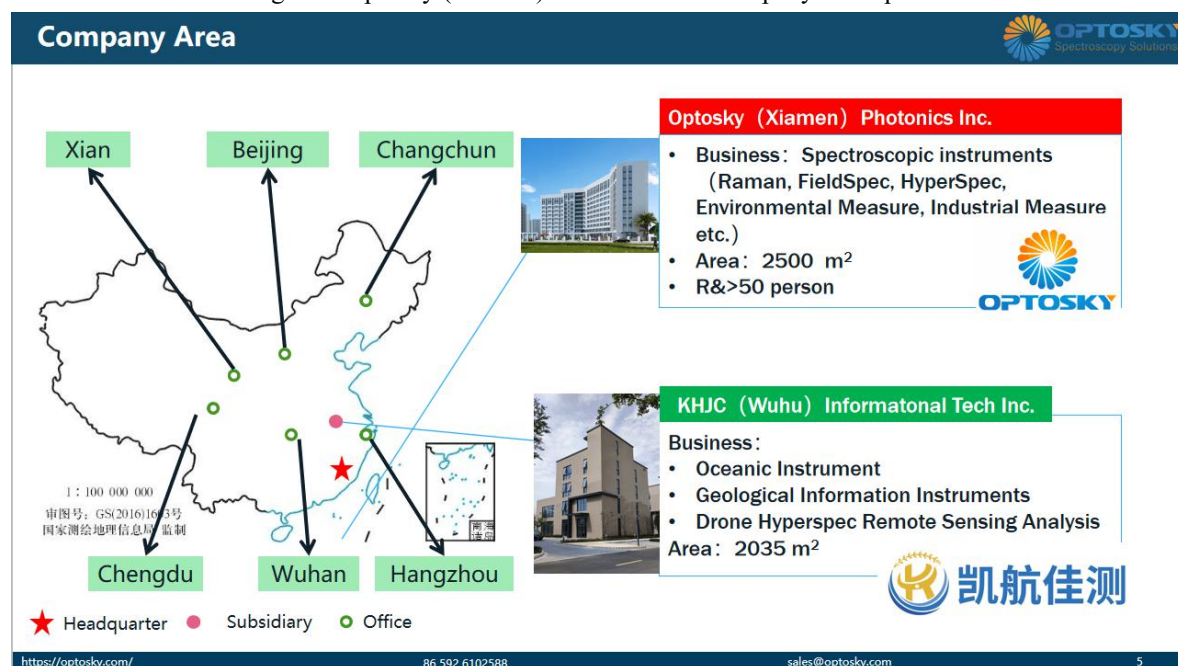


Figure 2 Optosky Company Area

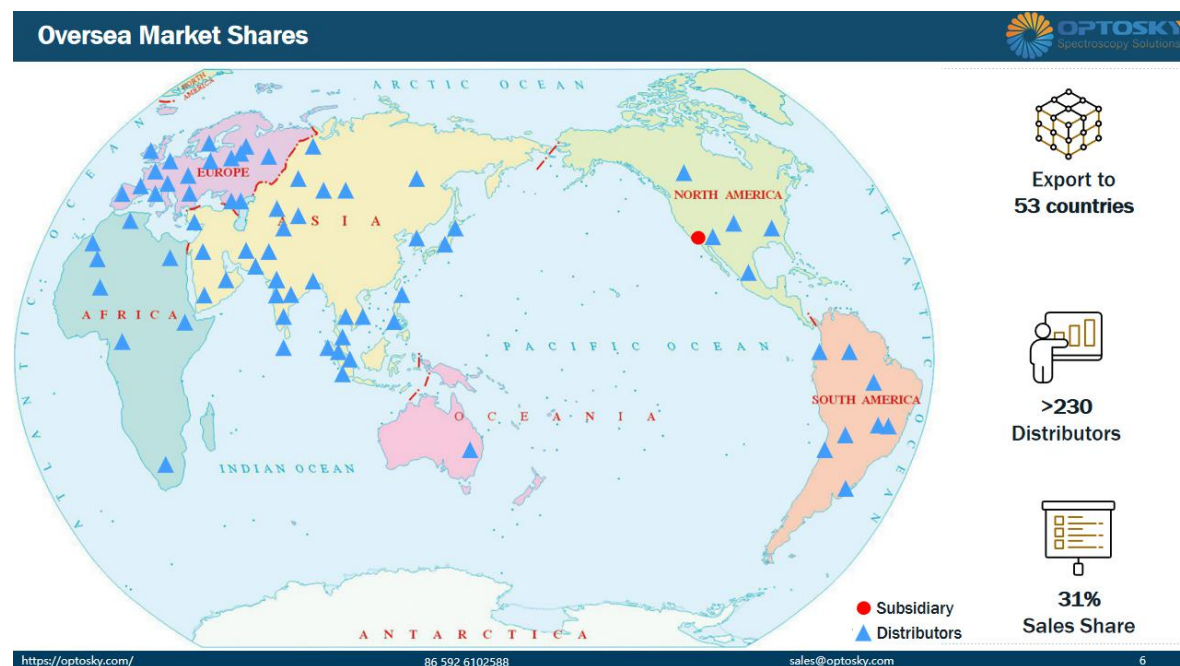


Figure 3 Oversea Market Shares



Figure 4 Optosky Chair and Draft National Standards Lists.

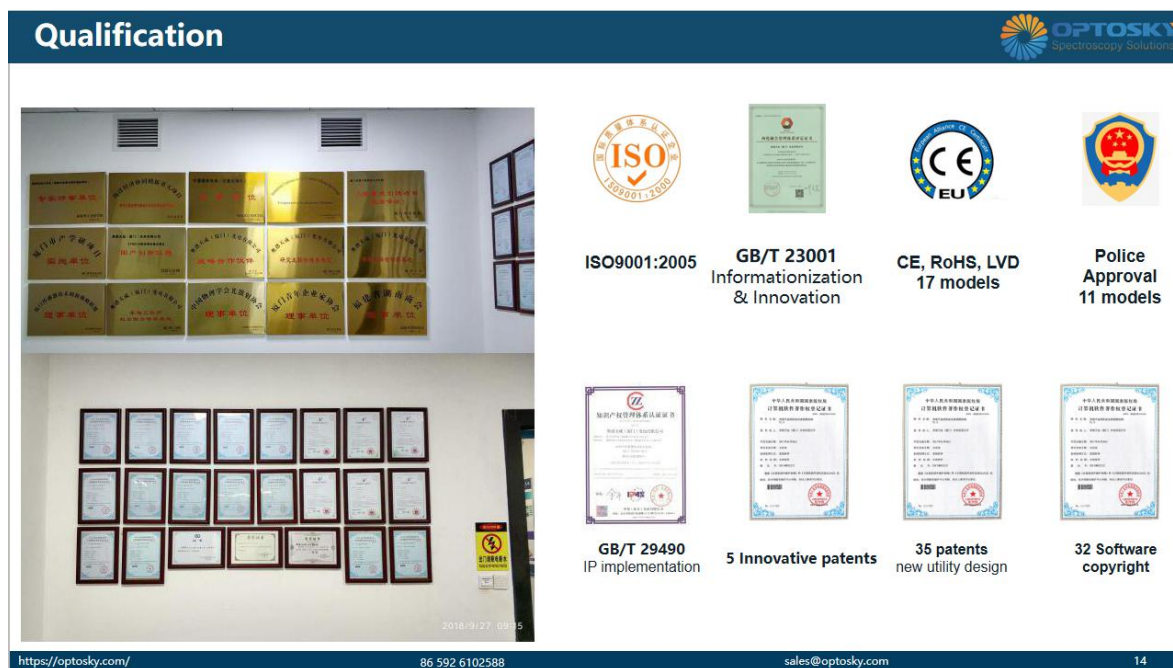


Figure 5 Qualification

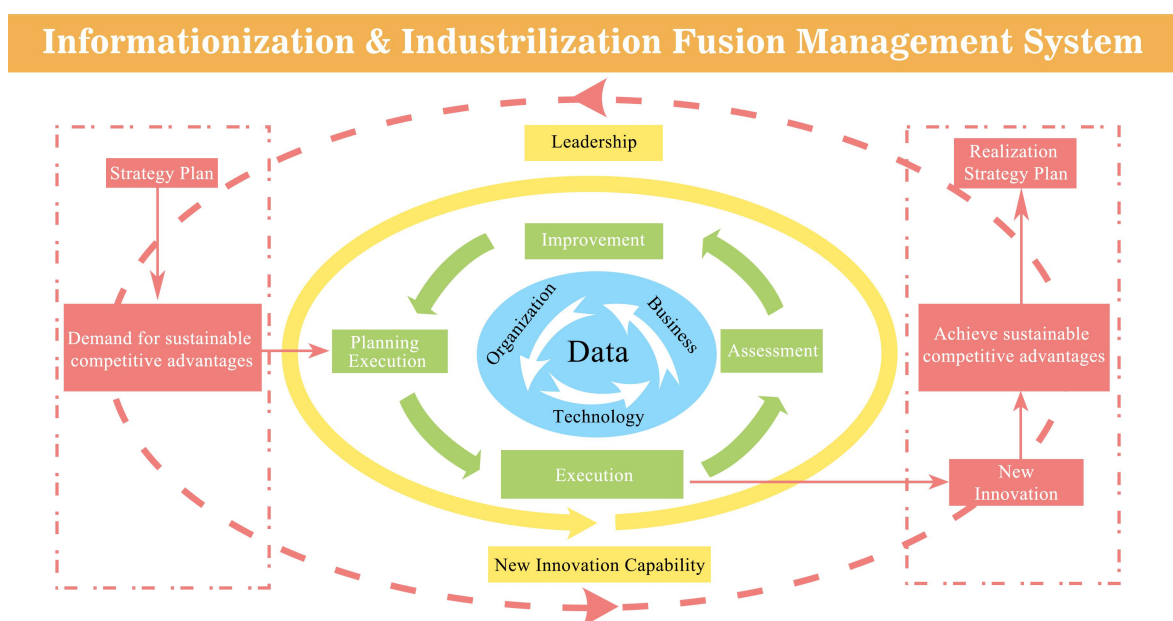


Figure 6 GB/T 23001\_Informationization & Industrialization Fusion Management System

## 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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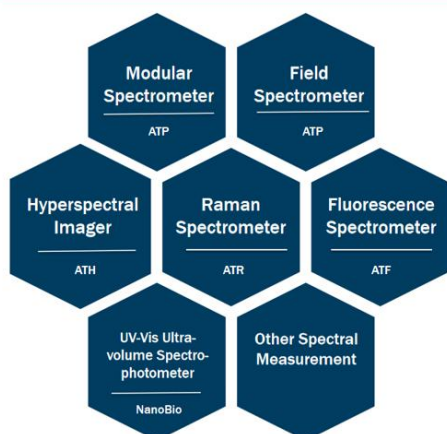
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Figure 7 Optosky's Co-founder\_Dr. Hongfei Liu

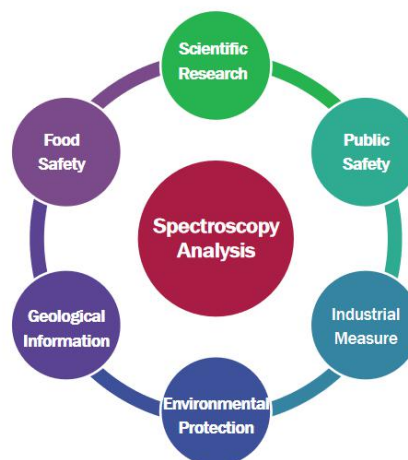
## Category & Application



### Category



### Application




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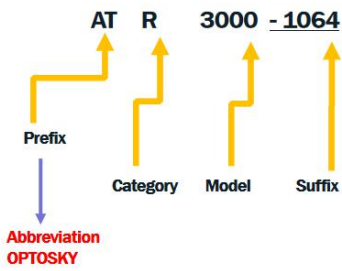
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Figure 8 Category & Application


**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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Figure 9 Model Name Rule