

## Steady-State Transient Fluorescence Spectrometer **ATF4700**

### Features

- Steady-state excitation wavelength range: 200-800nm
- Steady-state emission wavelength range: 185-900nm
- Fluorescence lifetime measurement range: 150ps~50μs
- Phosphorescence lifetime measurement range: 10ns~50s
- Monochromator focal length: 350mm
- Rich light source options: supercontinuum laser light source, microsecond pulse xenon lamp, X-ray light source, etc.
- Rich detector options: PMT, InGaAs, single photon counter, etc.
- Ultra-large sample chamber can be applied to a variety of sample analysis
- USB data output interface, can process data online
- Open design, realize a variety of test functions
- Multiple accessories support to meet various needs

### Application

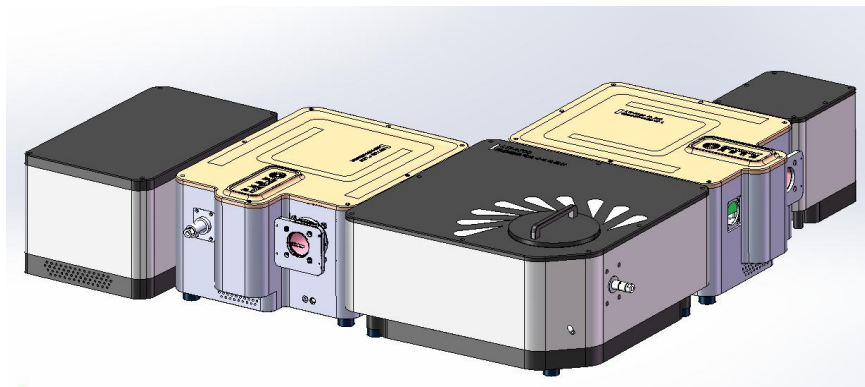
- Chemistry: Pharmaceutical Engineering
- Material Science
- Biological Science
- Life Science: Medical Analysis
- Agriculture and Food Safety
- Environmental Science
- Water Quality Analysis
- Chemical Engineering
- Teaching and Research

### Description

ATF4700 steady-state transient fluorescence spectrometer is a multifunctional fluorescence test platform launched by Optosky after 5 years of research and development based on 20 years of experience in spectrometer development. ATF4700 adopts an open design, with ATP7300 series monochromators, high-brightness polychromatic light sources and multi-wavelength monochromatic light sources, high-sensitivity single-photon detectors and large-capacity sample chambers as core components.

The light source of ATF4700 steady-state transient fluorescence spectrometer can be matched with a variety of light sources such as picosecond pulse laser diodes, supercontinuum light sources, microsecond pulsed xenon lamps, continuous lasers, X-ray light sources, etc. The detector can be equipped with various high-sensitivity detectors such as ultraviolet-near infrared PMT, cooled near-infrared InGaAs detectors, single-photon counters, etc. Better realize various steady-state and transient test functions such as fluorescence spectrum, laser-induced fluorescence spectrum, photoluminescence, fluorescence lifetime and fluorescence quantum yield.

The monochromator of ATF4700 steady-state transient fluorescence spectrometer reserves 2 external light inlets, which can be matched with the microscopic optical path to realize microscopic (high spatial resolution) spectral measurement. In addition, it can be equipped with a variety of accessories such as liquid, powder, film sample holders, water bath heating sample holder temperature control units, etc. to achieve multi-dimensional spectral measurements such as variable temperature testing, providing support for studying sample components and dynamics.



## 1. Parameter

Model	ATF4700-TM
Laser wavelength range	200-800nm
Emission wavelength range	185~900nm
Spectral resolution	0.07nm@435.8nm
Minimum scanning step	≤0.02nm
Sensitivity	Noise at water Raman peak: S/N>10000 (RMS)
Steady-state excitation light source	150W steady-state xenon lamp
Transient excitation light source	Microsecond pulse light source, optional picosecond pulse laser, etc.
Spectral splitting optical path	Asymmetric non-crossing C-T splitting optical path
Spectrometer focal length	350mm
Sample holder	Standard configuration: liquid, powder, film sample holder; Optional configuration: rotating sample holder, magnetic stirring sample holder, water bath heating sample holder, etc.
Steady-state visible light detector	Infrared enhanced photomultiplier tube
Steady-state infrared detector	NA
Transient acquisition	Single photon counter, count rate: 100Mcps, lock-in amplifier
Fluorescence lifetime measurement range	150ps~50μs
Phosphorescence lifetime measurement range	10ns ~ 50s
Interface	USB2.0
Wavelength accuracy	±0.2nm
Wavelength repeatability	±0.2nm
Working humidity	45-80%
Working temperature	10-35°C

## 2. Selection Guide

Model	Description
ATF4700	Wavelength range: 185-900nm, steady-state fluorescence measurement
ATF4700-17	Wavelength range: 185-1700nm, steady-state fluorescence measurement
ATF4700-TM	Wavelength range: 185-900nm, with time resolution function, can measure fluorescence lifetime 150ps~50μs

Note:

\*1: The wavelength range can be customized and can be expanded by adapting the detector

\*2: The optimal resolution is related to the slit width of the spectrometer; if the slit width is further reduced, the resolution can be further improved;

\*3: The table parameters only represent the parameters of the company's standard products; Aopu Tiancheng instruments are all independently developed and produced products, and the corresponding parameters can be customized;