

# APAS: Automatic Polarization Analysis System

## [Basic configuration example]

It is a sample configuration of optical system which is the base of various measurement and analysis. It will be also provided the model selection and recombination of the basic configuration to match the performance requirements and purpose of the customer.

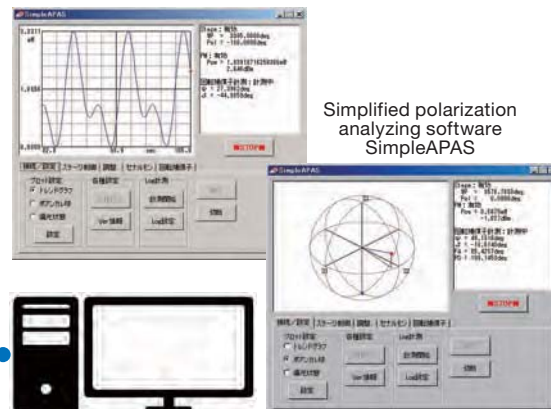
## Light source of arbitrary polarization

- It is the light source which outputs in an arbitrary polarization state by installing the polarization operation optical system at the rear end of light source.
- All settings related to the polarization are possible such as setting the direction of rotation, aspect ratio and each polarization state of linear polarization, circular polarization and elliptical polarization.
- Because of the dynamic control by PC is possible, it can be used to evaluate the sample of polarization dependence, and polarization compensation in the subsequent stage after passing through the device.



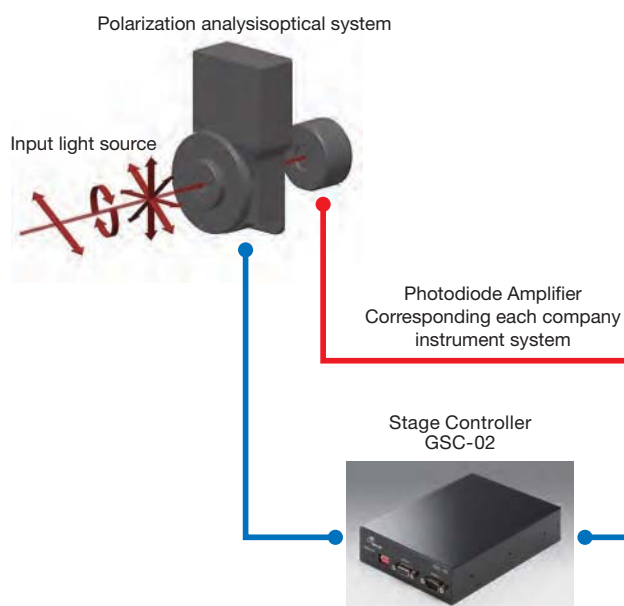
## [Specification example]

- output wavelength: 532nm, 633nm, various possible.
- output power: various possible
- Stokes parameter setting resolution:  
S1:  $\pm 0.001$   
S2:  $\pm 0.001$   
S3:  $\pm 0.001$



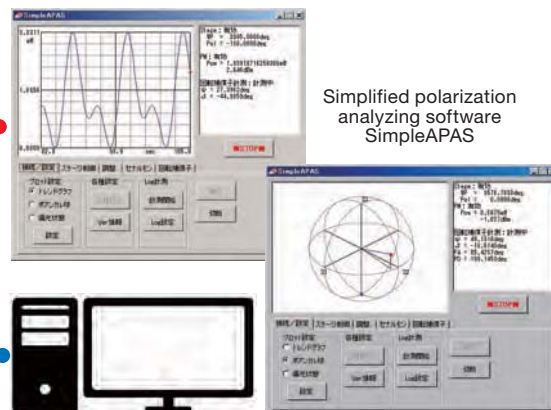
## Polarization measurement system

- It is a measurement system for measuring and analyzing the polarization state of the input light source.
- It can be made a calculation all of the stokes parameter S0 - S3 of the input light source polarization.



## [Specification example]

- input wavelength : 532nm, 633nm, various possible.
- input power : various possible
- Stokes parameter setting resolution:  
S1:  $\pm 0.001$   
S2:  $\pm 0.001$   
S3:  $\pm 0.001$
- Polarization extinction ratio measurement dynamic range:  $\geq 60\text{dB}$  (possible customized)





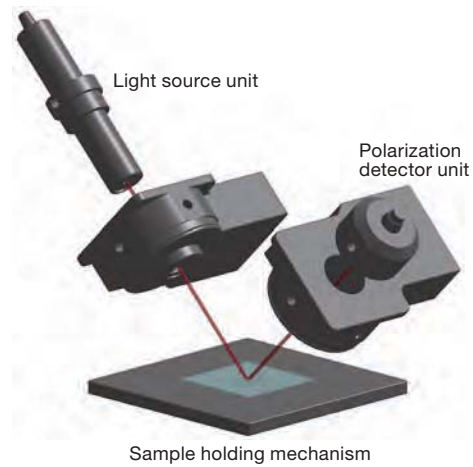
## Optical Characteristics Measurement System

- A composition of system with light source unit, sample holding mechanism and detector unit.
- Configuration that combines a reflective and transmissive type is also possible.
- Reflective type is also usable as an ellipsometer addition to polarization characterization system.



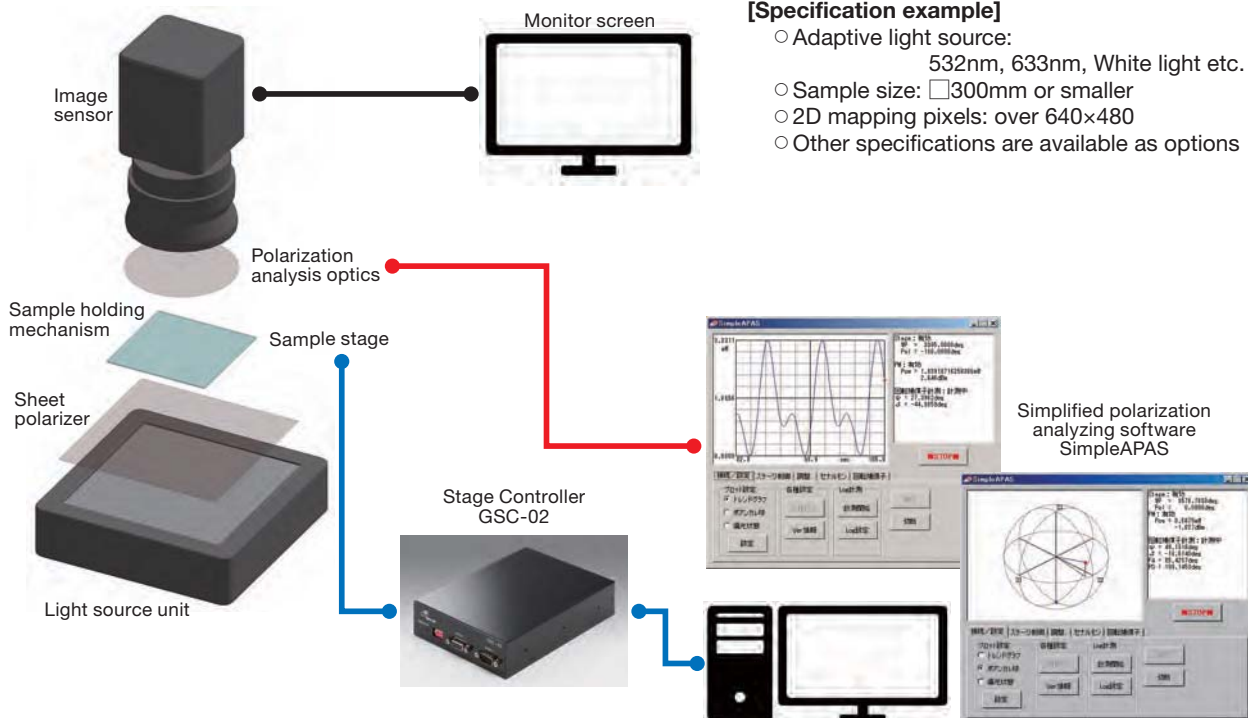
### [Specification example]

- Adaptive wavelengths: 532nm, 633nm and others
- Retardation resolution: 0.23deg (\*)
- Retardation accuracy: 0.23deg (\*)
- Extinction measurement range:  $\geq 60\text{dB}$  (\*)
- \* A model with higher specification is available



## Optical Strain Measurement System

- A device for visualizing internal stress-strain such as striae and processing strain.
- It is possible to capture the video of the distribution of the stress-strain.



### [Specification example]

- Adaptive light source:  
532nm, 633nm, White light etc.
- Sample size:  $\square 300\text{mm}$  or smaller
- 2D mapping pixels: over  $640 \times 480$
- Other specifications are available as options

### Application Systems

Optics & Optical Coatings

Opto-Mechanics

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# APAS: Automatic Polarization Analysis System

## [Circularly polarized light measuring device]

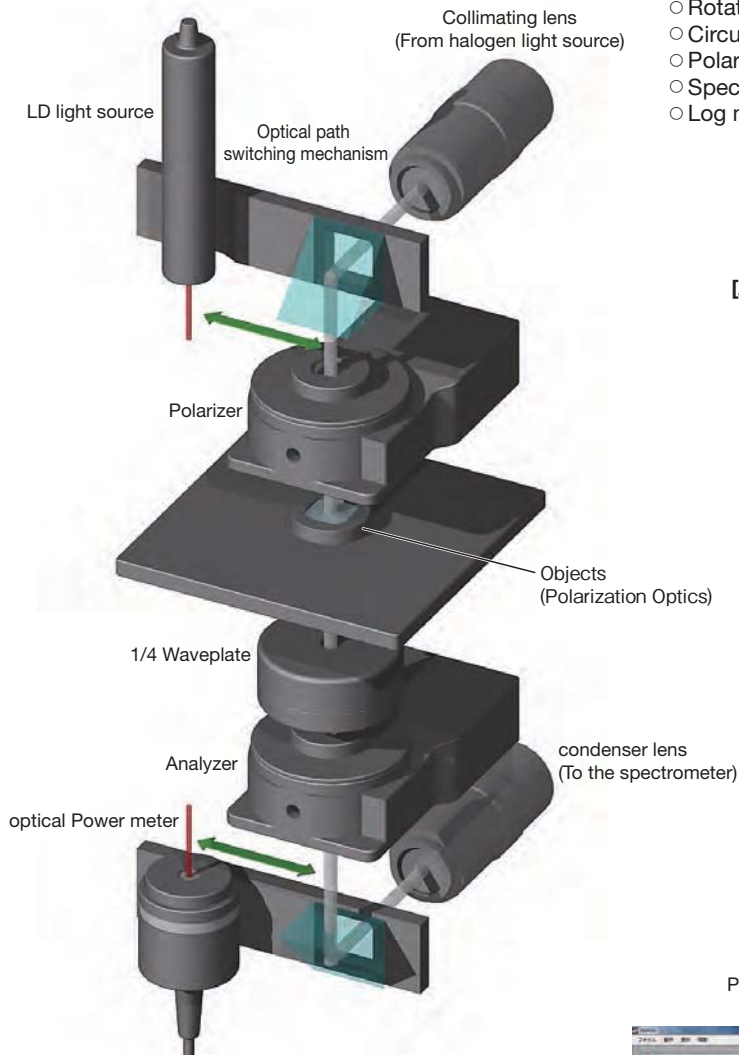
As a measuring device and production equipment, we also provide the production of dedicated device. To achieve both cost reduction and quality and stable performance by using a catalog standard products in main part, in addition, we propose according to customers' applications to improve the throughput by adding the necessary unit as a dedicated machine.

## Circularly polarized light measuring device

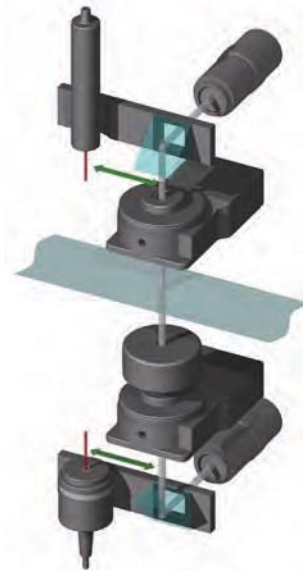
- It is a system for the characterization of polarization optics in transmission optical system of the vertical.
- It can be evaluated all the main characteristics by only setting the sample to the sample bench.
- The spectral phase difference, spectroscopic data of the polarization parameters, and transmission polarization ratio of the polarizer can be measurable.

### [Specification example]

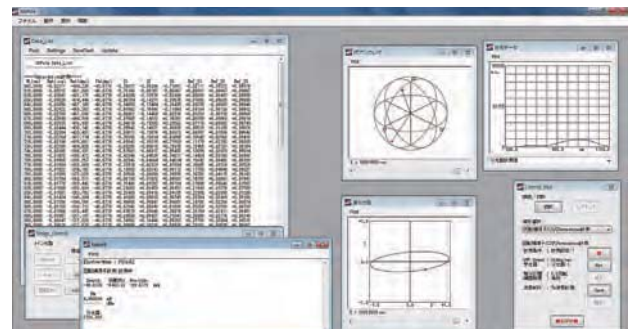
- Automatic adjustment of polarization optics axis direction
- Senarmont type phase difference measurement
- Rotation compensation operator expression polarization measurement
- Rotating analyzer-type polarization measurement
- Circularly-polarized light contrast measurement
- Polarizer transmission polarization ratio measurement
- Spectral transmittance measurement
- Log measurement



### [Application example for film type sample]



Polarization measurement system control software  
SKPola



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## Polarization component

We will provide the holder and various polarizing element as a device for assembling and research and experimental applications. From a wide range of line-up, you can choose in accordance with the objectives, specifications and budget.

### Polarization Beam splitters

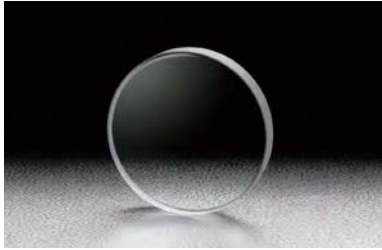
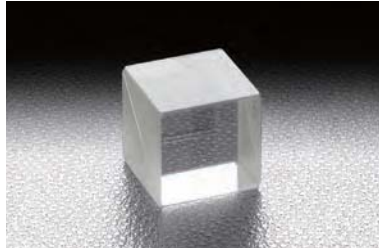
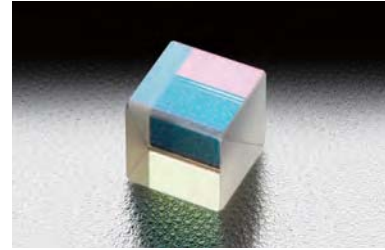


Plate Type



Cube Type



High Power Laser Type

### Polarizer



Plastic polarizer



Sheet Polarizer



Rochon Polarizer

### Polarization Prisms



Glan Thompson Prisms



Glan Laser Prisms

### Waveplates



Quartz Waveplates



Mica Waveplates



Fresnel Rhomb Waveplate

### HOLDERS



Polarizer Holders



Rotation Motorized Polarizer Holder

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