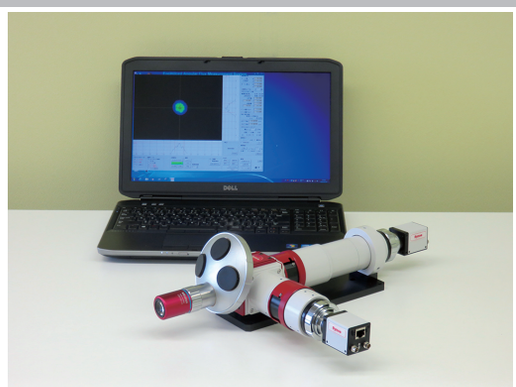
NFP & FFP SIMULTANEOUS MEASUREMENT SYSTEM
NFP & CCOLLIMATED BEAM SIMULTANEOUS MEASUREMENT SYSTEM

Realize simultaneous measurement of NFP & FFP / collimated beam by a single optical unit.



【Product overview】

NFP&FFP Simultaneous measurement system realizes simultaneous observation and analysis of NFP and FFP by a single optical unit. Previously, for measurement and analysis of NFP and FFP (collimated beam) by optical method, dedicated two optics, NFP measurement optics and FFP (collimated beam measurement optics) are needed each. **NFP&FFP (collimated beam) simultaneous measurement system with M-Scope type D/type E** realized simultaneous observation and analysis of NFP and FFP without changing optics by using specially designed single optical unit, and make it possible to execute simaltaneous measurement and analysis, adjustment of position and angle, inclination of various micro lens modules.

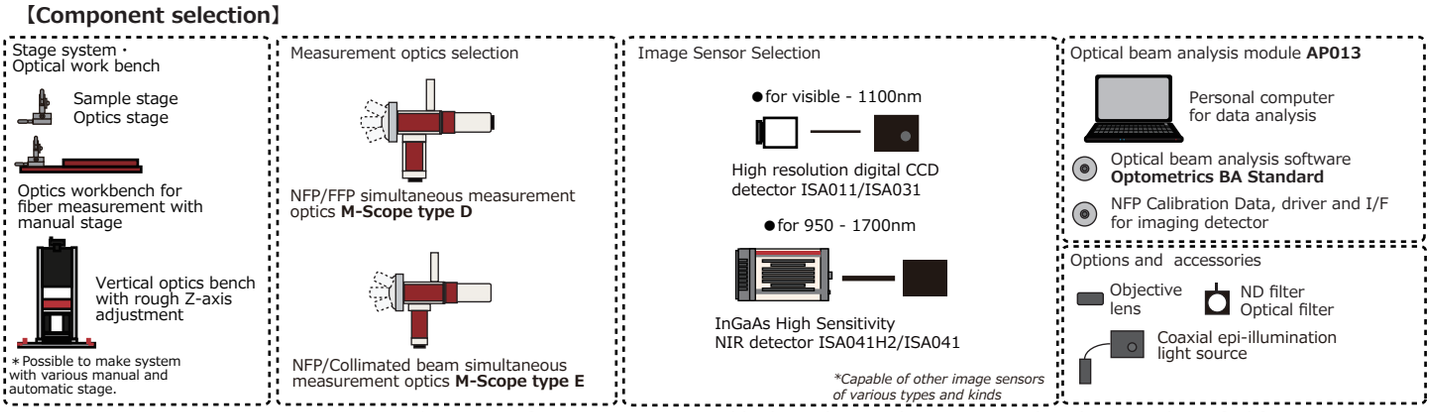
【Feature】

* Realizes simultaneous observation & analysis of NFP and FFP by a single optical unit.
  - NFP measurement port and FFP measrement port (collimated beam measurement port) are integrated independently in a single optics. Consequently, measurement related to NFP analysis such as optical beam pattern, optical beam intensity profile, microscopic image at sample surface, and measurement related to FFP analysis such as emmision angular distribution analysis, emmision directional analysis, collimated beam condition, etc. are realized simultaneously.
* Realtime observation and analysis with special opics and image processing
* Possible to select suitable image sensor, from visible to NIR region
  - For visible - 1100nm : **ISA011**, high resolution digital CCD detector
  - For 950nm - 1700nm : **ISA041H2**, InGaAs high sensitivity NIR detector
* Optical beam analysis module **AP013**, specially designed high-functional image processing system for optical beam profile analysis
  - Essential and useful functionality for NFP, FFP, beam profile analysis, EF/EAF analysis are equipped in Synos' original optical beam analysis software **Optometrics BA Standard.**
* By system integration with various positioning stage system, it will be possible to build up automatic alignment system for collimated and focusing lens module of butterfly package modules.

【Application】

* NFP /FFP simultaneous measurement for various visivle - NIR optical devices and modules
* Collimator and focusing lens alignment and evaluation of various butterfly package device and module
* Lens position, angle aligmnent and evaluation of visivle - NIR LD module
* Beam pattern and emitted beam angular evaluation of various LD, fiber, waveguide, etc.

【Component selection】



*A variety of system setup is possible depending on the purpose and application. Please feel free to contact us.

【Main component】

* Measurement optics
  - NFP / FFP simultaneous measurement optics **M-Scope type D**
  - NFP / Collimated beam simultaneous measurement optics **M-Scope type E**
  - ***About NFP/FFP(collimated beam) simultaneous measurement optics in details, please refer to P9.***
* Image sensor selection (recommendation)
  - For visible - 1100nm : Synos' Hi-resolution digital CCD detector **ISA011/ISA031**
  - For 950nm - 1700nm : Synos' InGaAs high sensitivity NIR detector **ISA041H2**
  - ***About imaging detector in details, please refer to P25-28.***
* Optical beam analysis module **AP-013**
  - Personal Computer system for data analysis
  - Image processor board & interface board set
  - Optical beam analysis software : **Optometrics BA Standard** (Optometrics BA Standard main program, calibration data set, driver and I/F software for imaging detector)
  - ***About AP013 in details, please refer to P24.***
* Standard accessories
  - Cables, manuals

【Option, accessory】

* Objective lens
  - Please select appropriate object lens in specification of pixel resolution, N.A., measurement field of view, measurement wavelength, sample, etc.
  - ***About objective lens in details, please refer to P31.***
* ND filter
  - Possible to supply due to attenation ratio, measurement wavelength, etc.
  - ***About ND filter in details, please refer to P31.***
* Coaxial epi-illumination light source
  - LED type (for visible - 850nm wavelength range)
  - Halogen type (for NIR wavelength range)
  - ***About coaxial epi-illumination light source in details, please refer to P32.***
* Optical workbench
  - Optical workbench for fiber measurement
  - Vertical setup optical workbench
  - ***About optical workbench in details, please refer to P32.***
* Motorized / manual positioning stage
  For positioning, adjustment of sample, optics, etc.