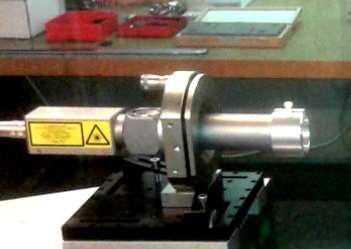
Optical alignment equipment for experimental tests

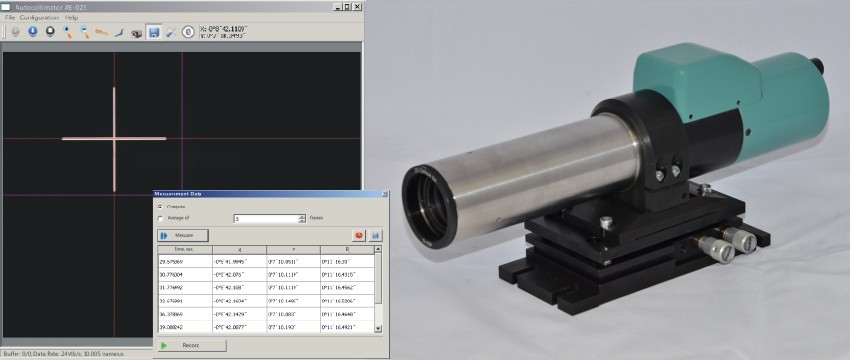


General information of the optical alignment equipment for experimental tests available:

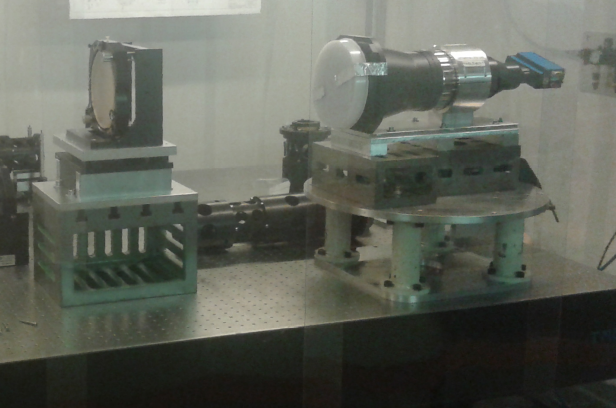
* 3 vibration insulated optical tables.
* Different autocollimators:
  + NEWPORT LDS1000 ([link](https://www.manualslib.com/manual/1537519/Newport-Lds1000.html#manual)) the LDS1000 electronic controller provides the means of displaying angular variations by measuring the movement of a spot of light on a position sensing device. General characteristics:
    - Digital resolution: 0.1 m.
    - Measurement range: ±2000 μrad.
    - Measurement error: ± (1 ±0.02 x measurement.) μrad (i.e. ±2%).
    - Max. measuring noise: 0.02 μrad/√Hz.
    - Sampling frequency: 2000 Hz.
    - Digital integration: from 0.5 msec to 1 sec.



* + ZG Optique AE-025 ([link](ZG%20Optique%20AE-025)): the Electronic Autocollimator AE-025 is equipped with a digital camera of high resolution and allows the precise measurement of an angle position of moving and stationary objects.General information:
    - Aperture: 40 mm.
    - Autocollimator field of view hor.(x) x vert. (y): 2700 × 2160 arcsec.
    - Resolution: 0.01 arcsec.
    - Repeatability: 0.05 arcsec.
    - Accuracy: 0.25 arcsec.
    - Interface: USB 2.0.
    - Sample frequency = ~ 10Hz



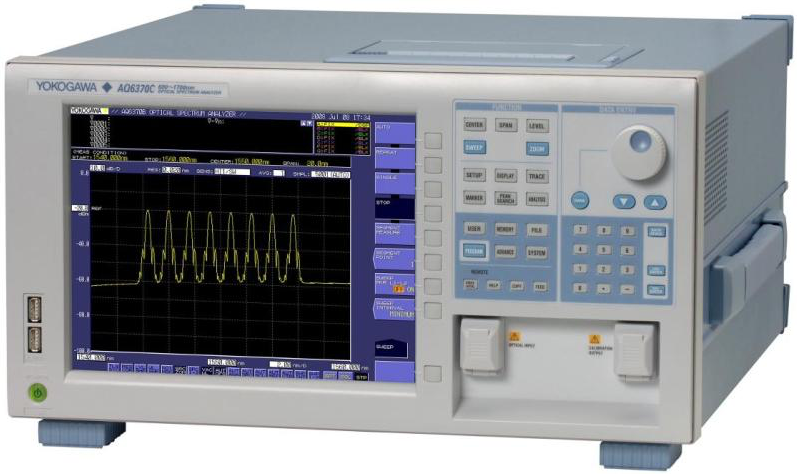
* + Others (WILD T2, Taylor Hobson, Lunette Leitz)
* FISBA OPTIK AG interferometer ([link](https://www.trioptics.com/products/interferometers/)): digital Compact Interferometer µPhase 2 HR S/N 814.
  + Laser 632.8 nm.
  + Resolution 1000 x 1000.
  + Internal reference flat at lambda/100.
  + Natural beam size: 5 mm.
  + 2 available objectives:
    - 100 mm.
    - 150 mm.
  + Non coated reference flat lambda/10 rms.
  + Non coated reference sphere r=-10 mm lambda/20.
  + 2 Coated reference flat 125 mm diameter at lambda/10 and faces parallel below 0.1 arcsec.



* Visible Spectrometer: Ocean Optics HR4000 ([link](https://oceanoptics.com/product/hr4000-custom/#tab-specifications)). General characteristics:
  + Wavelength range: 200-1100 nm
  + Integration time: 4 milliseconds – 20 sec (continuous); 10 microseconds – 4 milliseconds (shutter)
  + Dynamic range: 3.4 x 106 (system); 1300:1 for single acqusition
  + Signal-to-noise ratio: 300:1 (at full signal)
  + Grating: H1 – H14; HC-1
  + Slit: 5 µm wide slits F#4
  + Optical resolution: ~0.2 nm FWHM



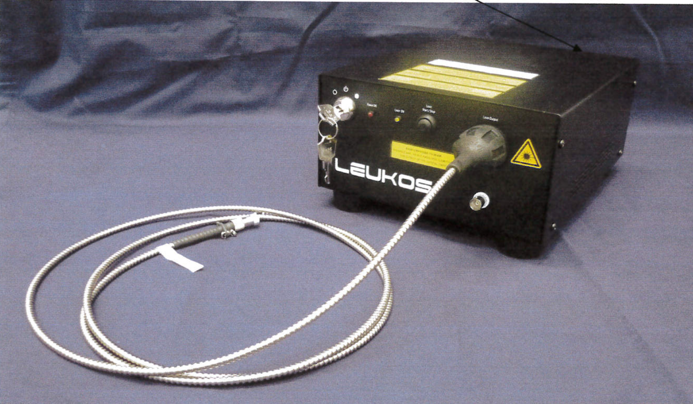
* Infrared Spectrograph: Yokogawa AQ6370C ([link](http://tmi.yokogawa.com/mx/discontinued-products/optical-measuring-instruments/optical-spectrum-analyzer/aq6370c-optical-spectrum-analyzer/)). General characteristics:
  + Wavelength range: 600 to 1700nm
  + High wavelength accuracy: ±0.01nm
  + High wavelength resolution: 0.02nm
  + Wide dynamic range: 78dB typ.
  + Wide level range: +20 to -90dBm.
  + Fast measurement: 0.2 sec. (100nm span).



* Visible and Infrared cameras, and detectors.
* Visible and IR laser sources.
* Different ultra bright white light sources:
  + Model EQ-99-FC LDLS system ([link](http://www.rayscience.com/Energetiq/EQ-99FC%20Manual%20rev4.pdf)) consists of a Power Supply Controller unit, Lamp House, laser fiber optic cable, and Lamp House signal cable.



* + Supercontinuum White Light Source: LEUKOS – SM – OEM.



* + Others (HL-2000-FSHA lampe tungsten Ocean Optics, Laser Diode Thorlabs CPS192 780 nm, Diode laser Qphotonics QDFBLD-1550-5, etc)
* Integrating sphere: sphere of 280 mm of diameter in ODM98, from Gigahertz Optik ([link](http://www.led-tester.de/en-us/product/UMBK-280)). There are 2 FC fiber ports and an output port of 20 mm.

