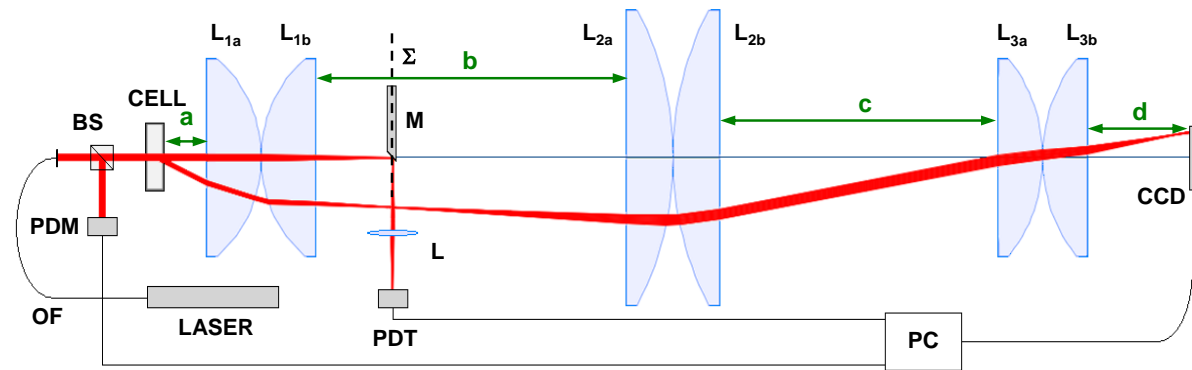
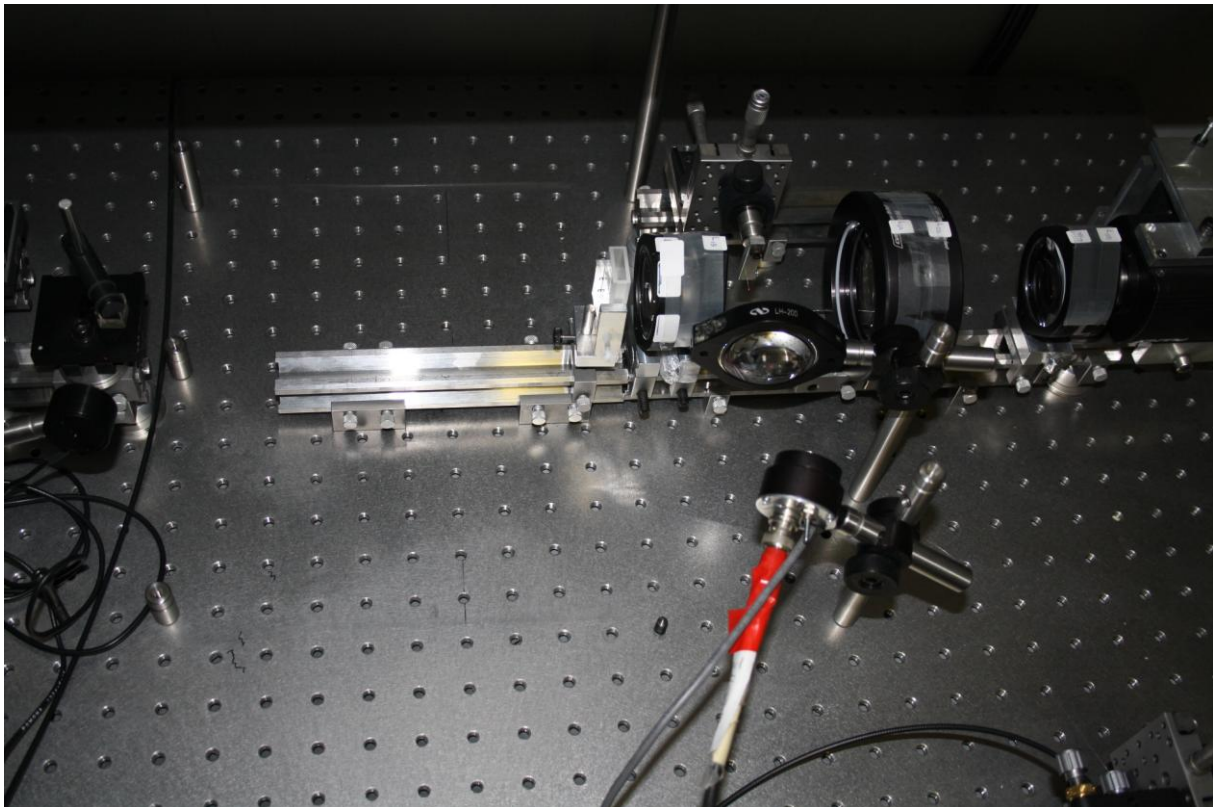


Scheme of the MALS setup

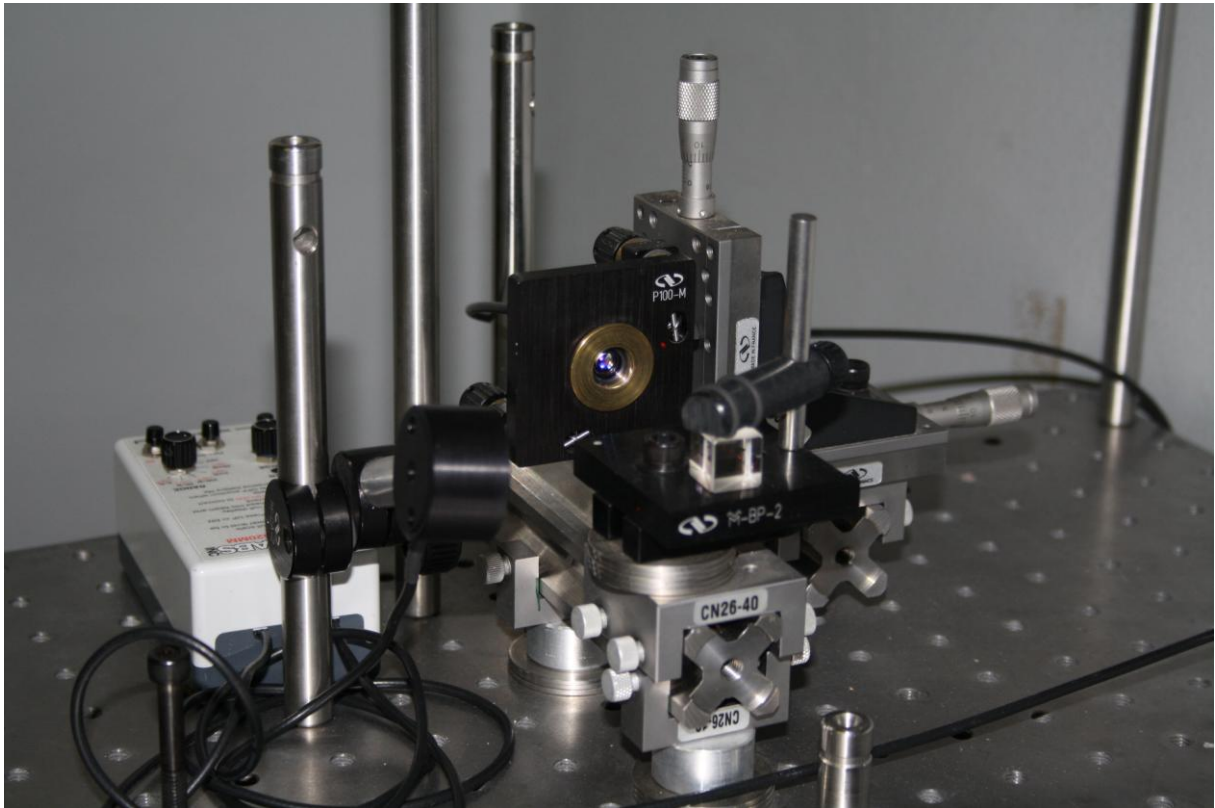


Distances :
a = 15 mm
b = 87 mm
c = 78 mm
d = 30 mm

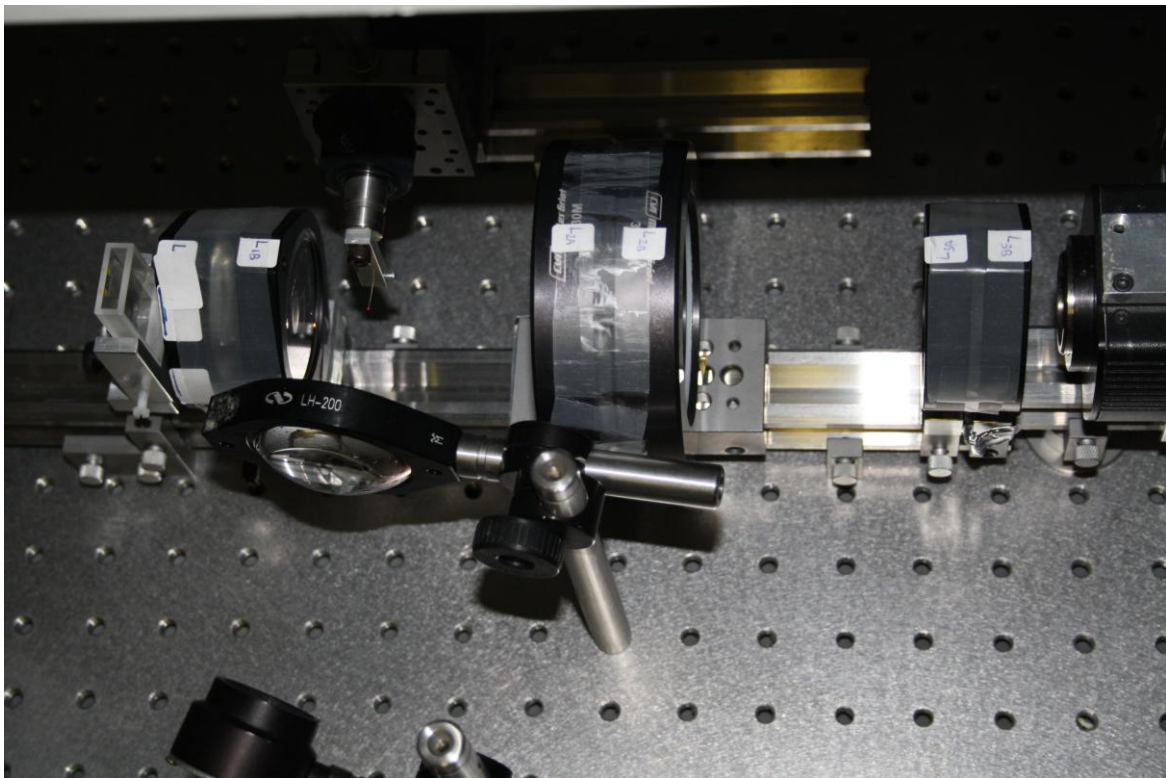
Photos of the MALS setup



General view of the setup. The optical fiber launch is on the left, out of the field of view.



The optical fiber launch, the beam splitter, and the monitor photodiode.



The central part of the apparatus, from the sample cell (on the left) to the CCD. Note the red spot formed by the transmitted beam on the beam block.

Main optical components (by Newport):

Lens	Part number	Diameter (mm)	Focal length (mm)
$L_{1a} = L_{1b}$	KPX178	50.8	62.9
$L_{2a} = L_{2b}$	KPX226	76.2	150
$L_{3a} = L_{3b}$	KPX181	50.8	75.6

Main opto-mechanic components*Lens holders:*

For the lens	Manufacturer	Part number	Diameter (mm)
$L_{1a}, L_{1b}, L_{3a}, L_{3b}$	Newport	LH-2	50.8
L_{2a}, L_{2b}	Melles Griot	33.30M	76.2

Optical rails (by Newport)

	Part number	length (mm)
three pairs of lenses	X26-256	256
CCD camera	X26-256	256
collimator	X26-128	128
Beam splitter	X26-128	128
Beam stop	X26-128	128

Rail carriers (by Newport):

	Part number
lens $L_{1a}, L_{1b}, L_{3a}, L_{3b}$	CN26-12
lens L_{2a}, L_{2b}	CN26-40
Collimator	CN26-40
Beam splitter	CN26-40
Beam stop	CN26-40

Stages (by Newport)

Double-Row Steel Linear Ball Bearing Stages M-UMR5.16 (two for the collimator and two for the beam stop), Platform Optical Mount P 100 M by Newport (for the collimator).

Alternative lenses (the first two lenses are aspherical), by Melles Griot:

In this alternative configuration, the three pairs of lenses $L_{1a}+L_{1b}$, $L_{2a}+L_{2b}$, and $L_{3a}+L_{3b}$ are replaced by single lenses, either aspherical or spherical biconvex. The two aspherical lenses should be placed with their flat side facing each other.

Replacement for	Part number	Lens type	Diameter (mm)	Focal length (mm)
$L_{1a} + L_{1b}$	LAG-19.0-17.0-C	aspherical	17.0	19.0
$L_{2a} + L_{2b}$	LAG-60.0-39.0-C	aspherical	60.0	39.0
$L_{3a} + L_{3b}$	LDX-35.0-30.5-C	Spherical biconvex	35.0	31.7