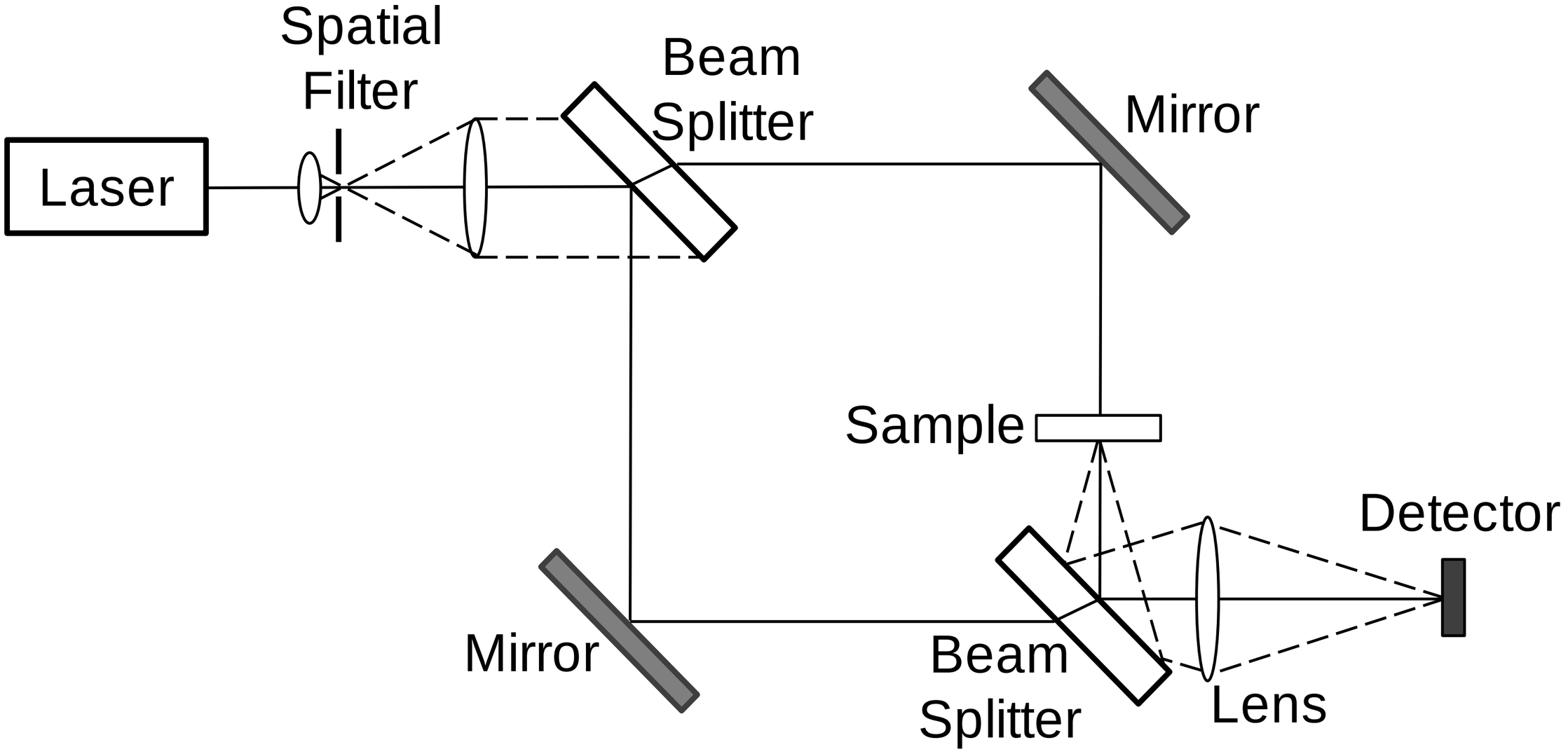
Gradient Index Group
The Institute of Optics

Metrology Instrumentation Summary

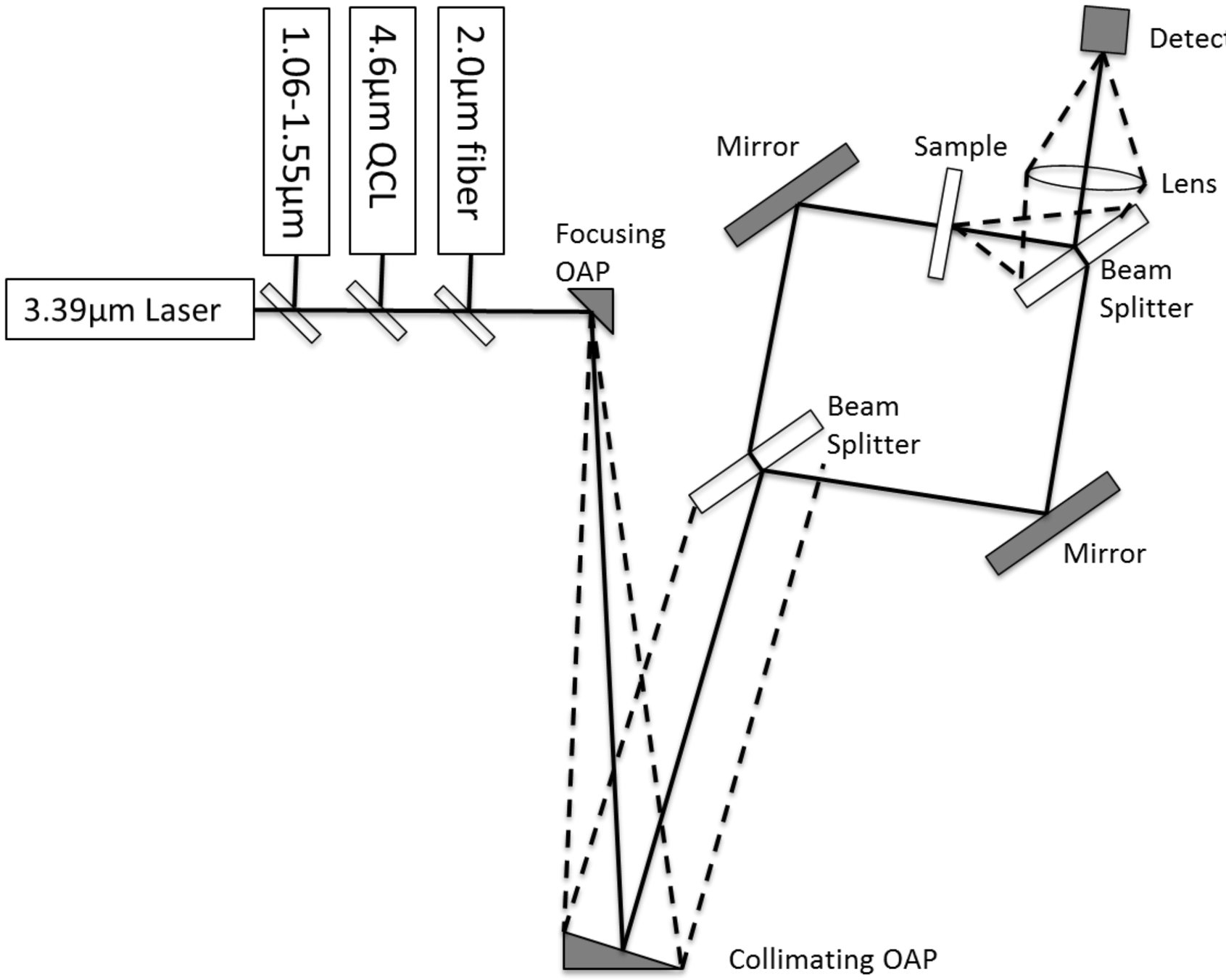
For further information, please contact Prof. Duncan T. Moore, tel: 585-275-8828

Visible Mach-Zehnder Interferometer



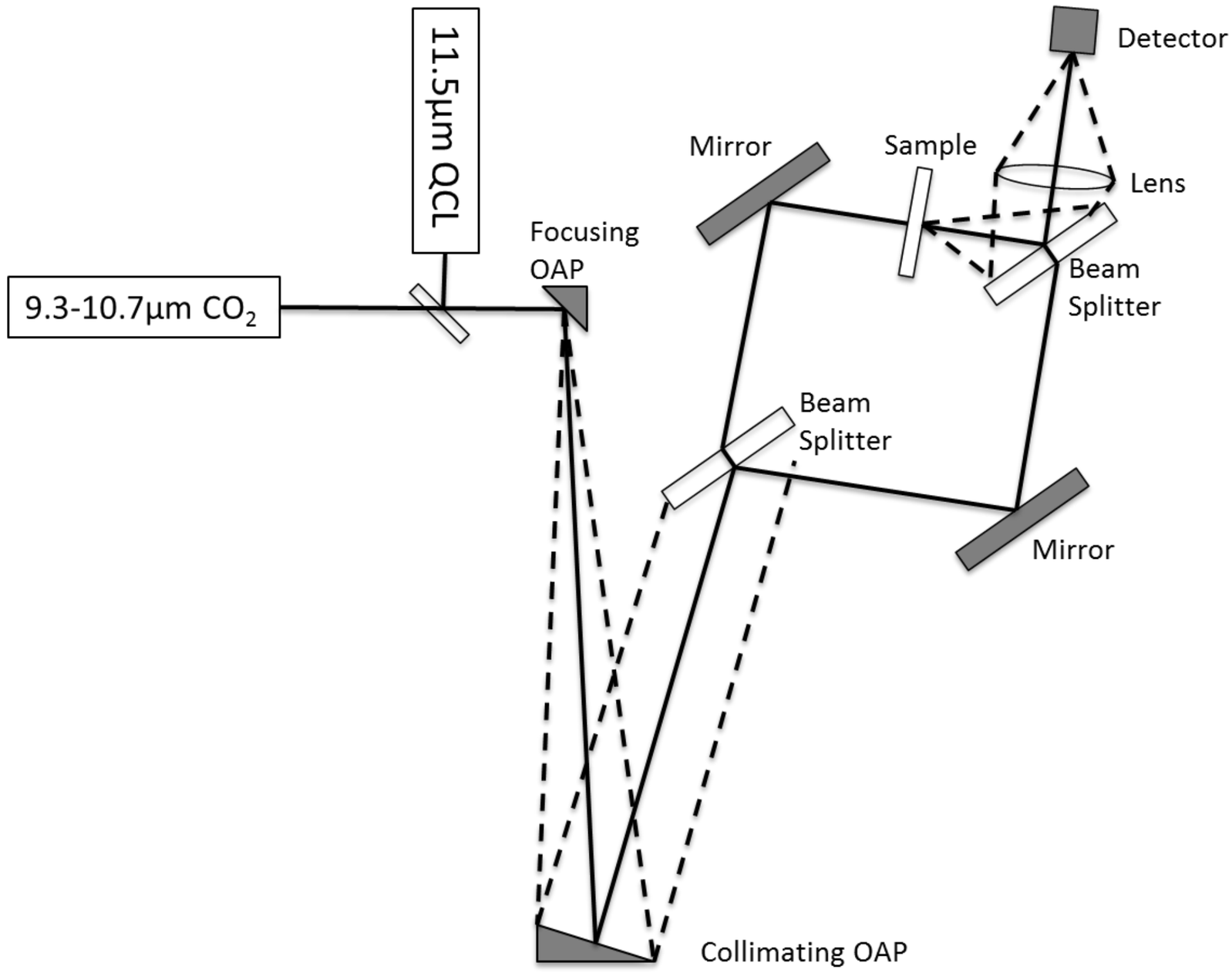
Measurand	Relative Index of Refraction	
Wavelength Range	VIS-NIR (0.4-1.1 µm)	
Measurement Range	Any	
Material Type	Gradient Index	
Wavelengths	0.3547 µm	0.6328 µm
	0.4579 µm	0.8244 µm
	0.4756 µm	1.064 µm
	0.4880 µm	
	0.5145 µm	
	0.5320 µm	

MWIR Mach-Zehnder Interferometer



Measurand	Relative Index of Refraction	
Wavelength Range	NIR-SWIR-MWIR (1-5 µm)	
Measurement Range	Any	
Material Type	Gradient Index	
Wavelengths	1.0568 µm	4.5905 µm
	1.3114 µm	
	1.5421 µm	
	1.9501 µm	
	3.39 µm	

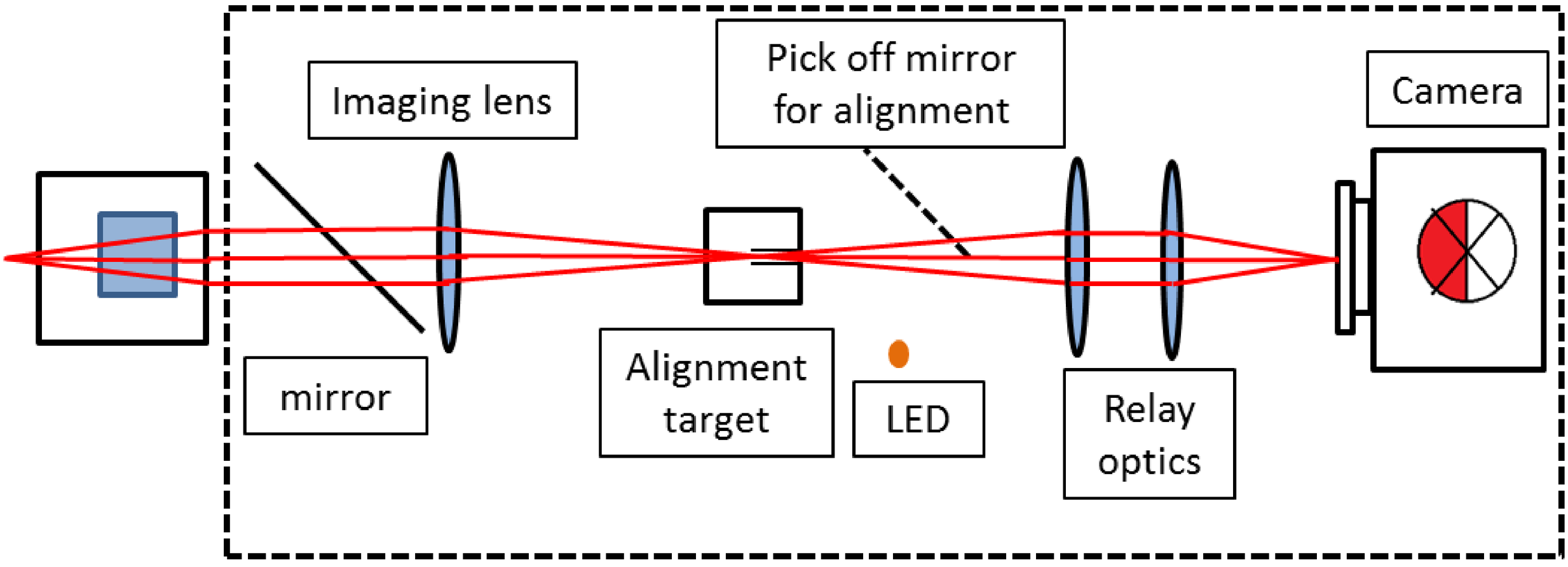
LWIR Mach-Zehnder Interferometer



Measurand	Relative Index of Refraction	
Wavelength Range	LWIR (8-12 μm)	
Measurement Range	Any	
Material Type	Gradient Index	
Wavelengths*	9.282 μm	10.303 μm
	9.552 μm	10.334 μm
	10.207 μm	10.591 μm
	10.233 μm	10.653 μm
	10.260 μm	11.3424 μm

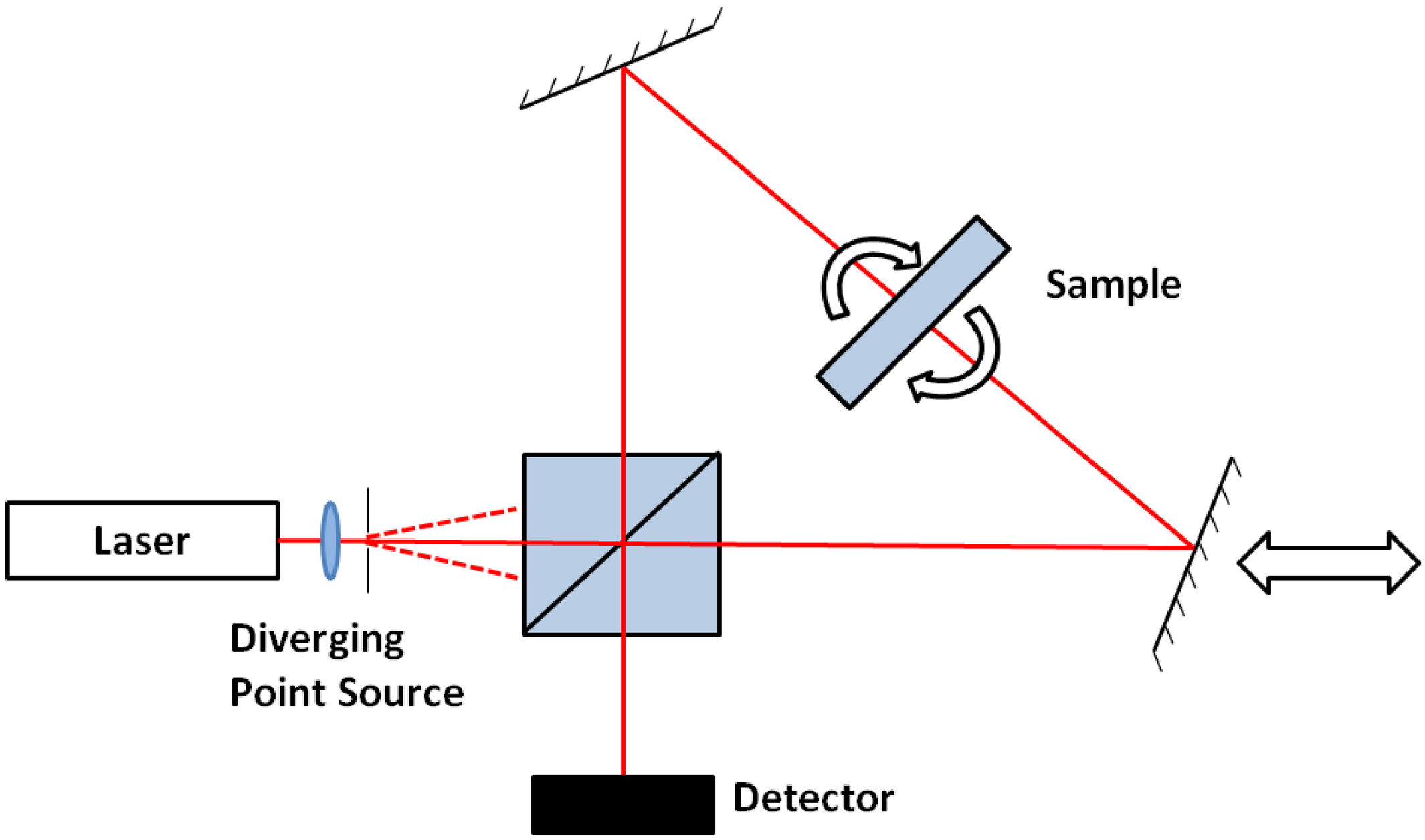
*** Another 26 available laser lines in 9.250-10.675 μm not listed here**

Pulfrich Refractometer



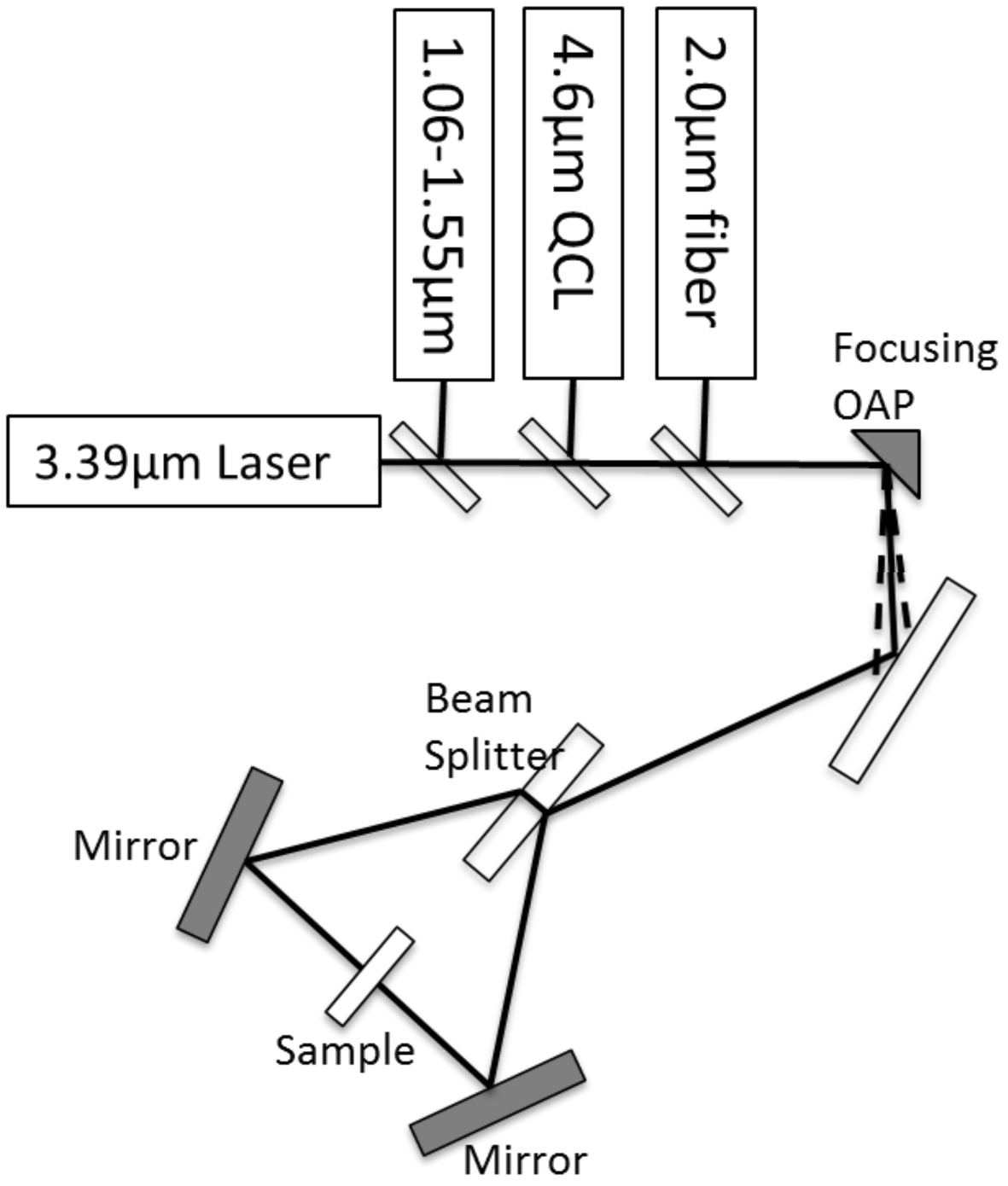
Measurand	Absolute Index of Refraction (surface)	
Wavelength Range	VIS-NIR (0.4-1.7 µm)	
Measurement Range	< 1.7	
Material Type	Homogeneous	
Wavelengths	0.4060 µm	0.7830 µm
	0.4504 µm	0.7880 µm
	0.4579 µm	0.8244 µm
	0.4756 µm	0.8480 µm
	0.4880 µm	0.8735 µm
	0.5145 µm	0.8885 µm
	0.5320 µm	0.9840 µm
	0.6328 µm	1.064 µm
	0.6500 µm	
	0.6776 µm	

Visible Sagnac Interferometer



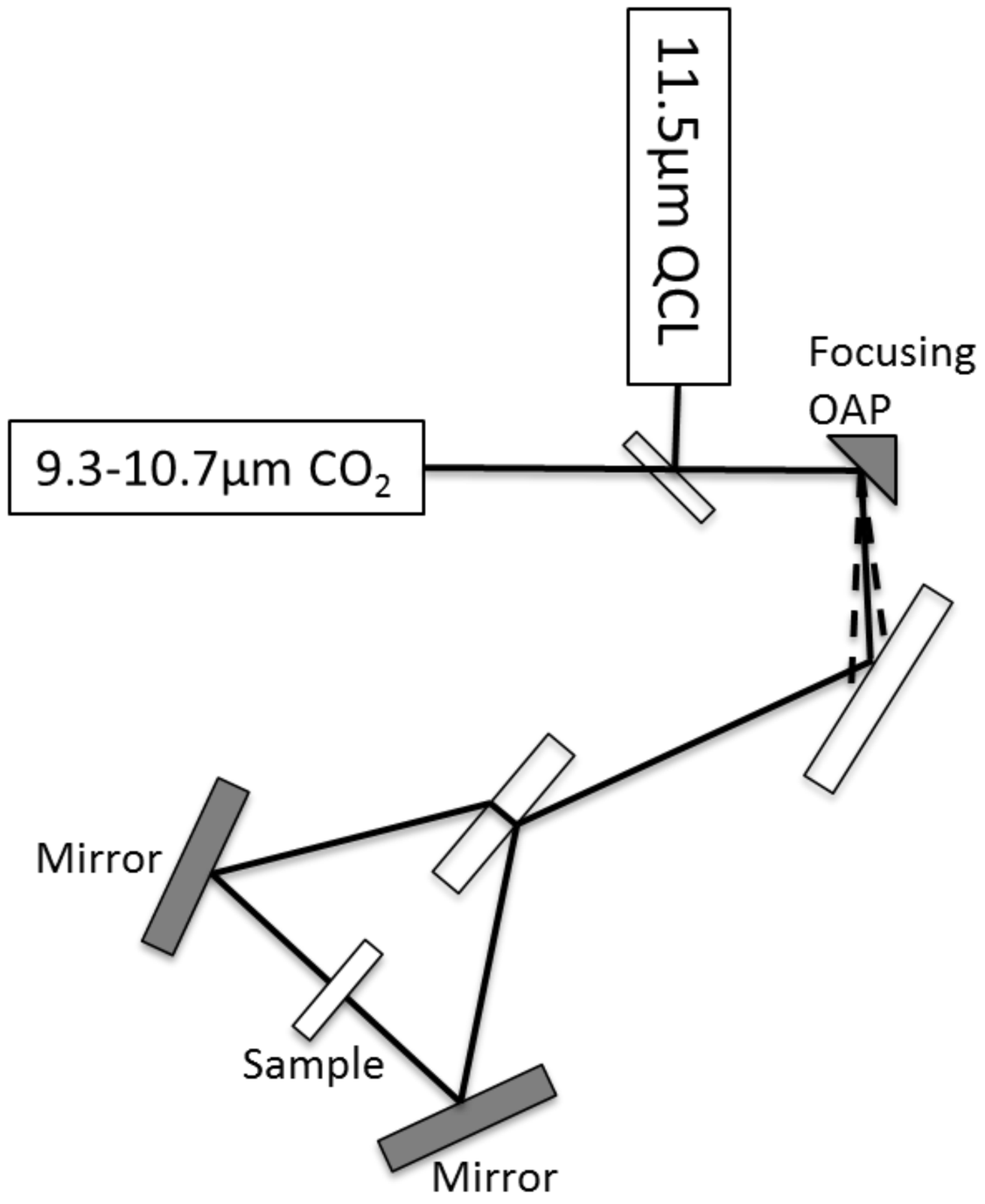
Measurand	Absolute Index of Refraction	
Wavelength Range	VIS-NIR (0.4-1.1 µm)	
Measurement Range	Any	
Material Type	Homogeneous	
Wavelengths	0.3547 µm	0.6328 µm
	0.4579 µm	0.8244 µm
	0.4756 µm	1.064 µm
	0.4880 µm	
	0.5145 µm	
	0.5320 µm	

MWIR Sagnac Interferometer



Measurand	Absolute Index of Refraction	
Wavelength Range	NIR-SWIR-MWIR (1-5 µm)	
Measurement Range	Any	
Material Type	Homogeneous	
Wavelengths	1.0568 µm	4.5905 µm
	1.3114 µm	
	1.5421 µm	
	1.9501 µm	
	3.39 µm	

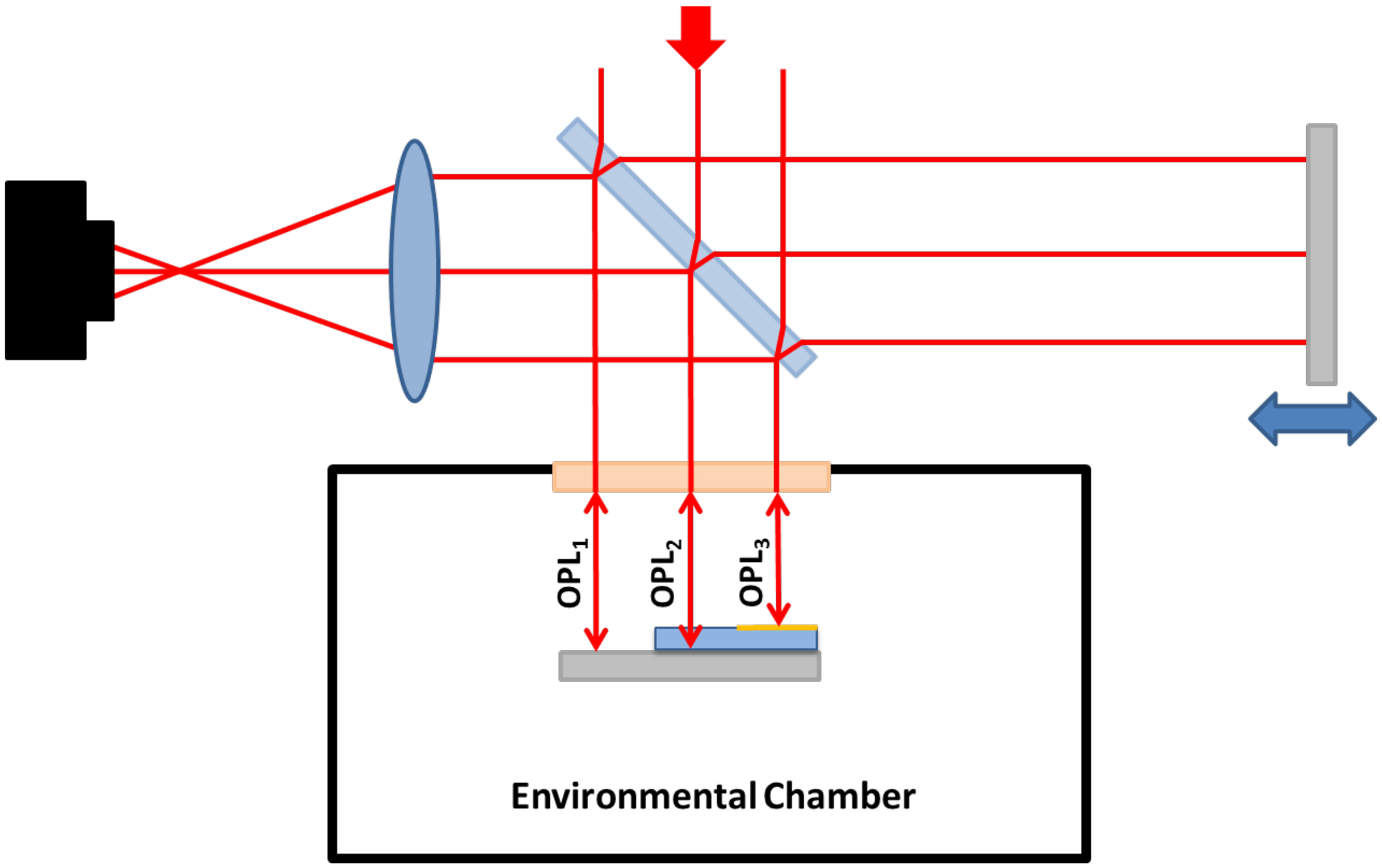
LWIR Sagnac Interferometer



Measurand	Absolute Index of Refraction	
Wavelength Range	LWIR (8-12 µm)	
Measurement Range	Any	
Material Type	Homogeneous	
Wavelengths*	9.282 µm	10.303 µm
	9.552 µm	10.334 µm
	10.207 µm	10.591 µm
	10.233 µm	10.653 µm
	10.260 µm	11.3424 µm

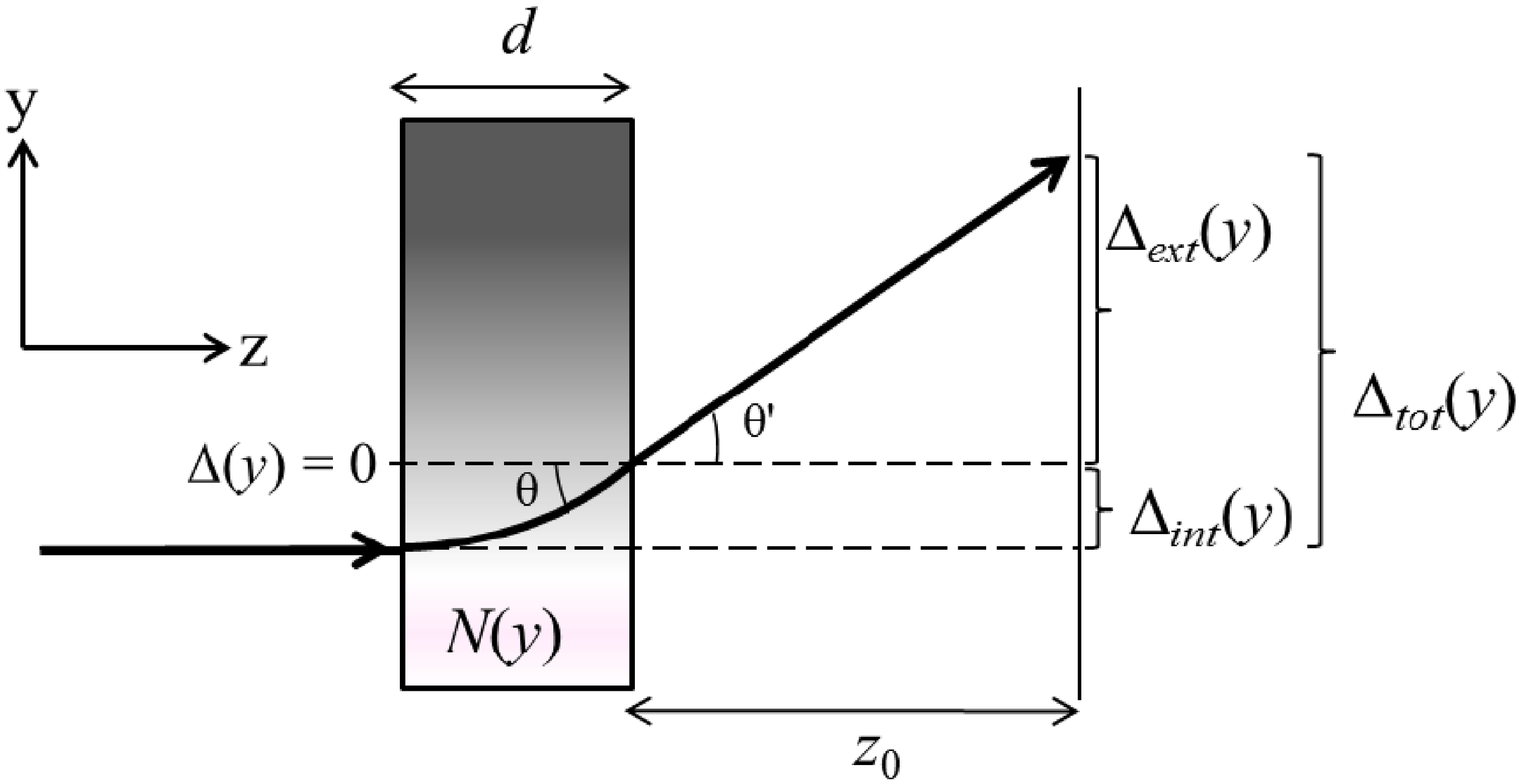
*** Another 26 available laser lines in 9.250-10.675 µm not listed here**

Thermal Interferometer



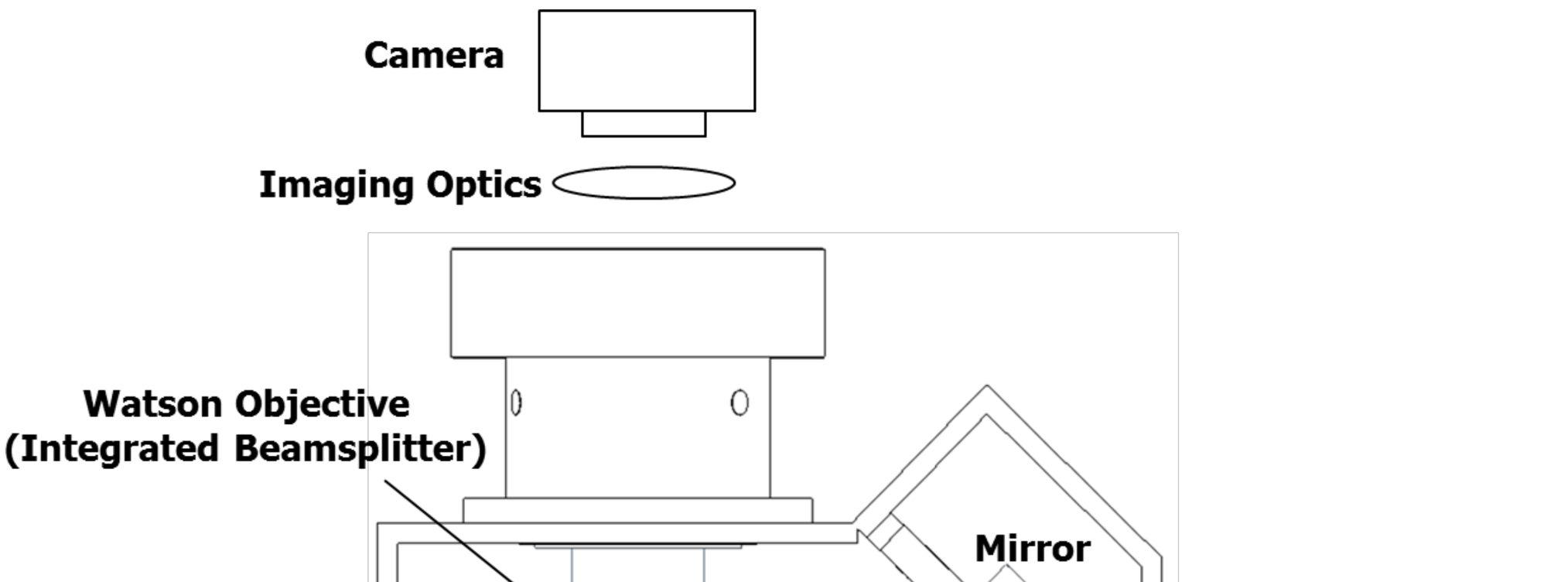
Measurand	dn/dT and CTE	
Wavelength Range	VIS-NIR-MWIR (0.4-5 µm)	
Measurement Range	Index: any; Temperature (-40 to 80°C)	
Material Type	GRIN or Homogeneous	
Wavelengths	0.4579 µm	
	0.4880 µm	
	0.5145µm	
	0.6328 µm	
	3.39 µm	
	10.6 µm	← Waiting for NYS

Beam Deflectometer



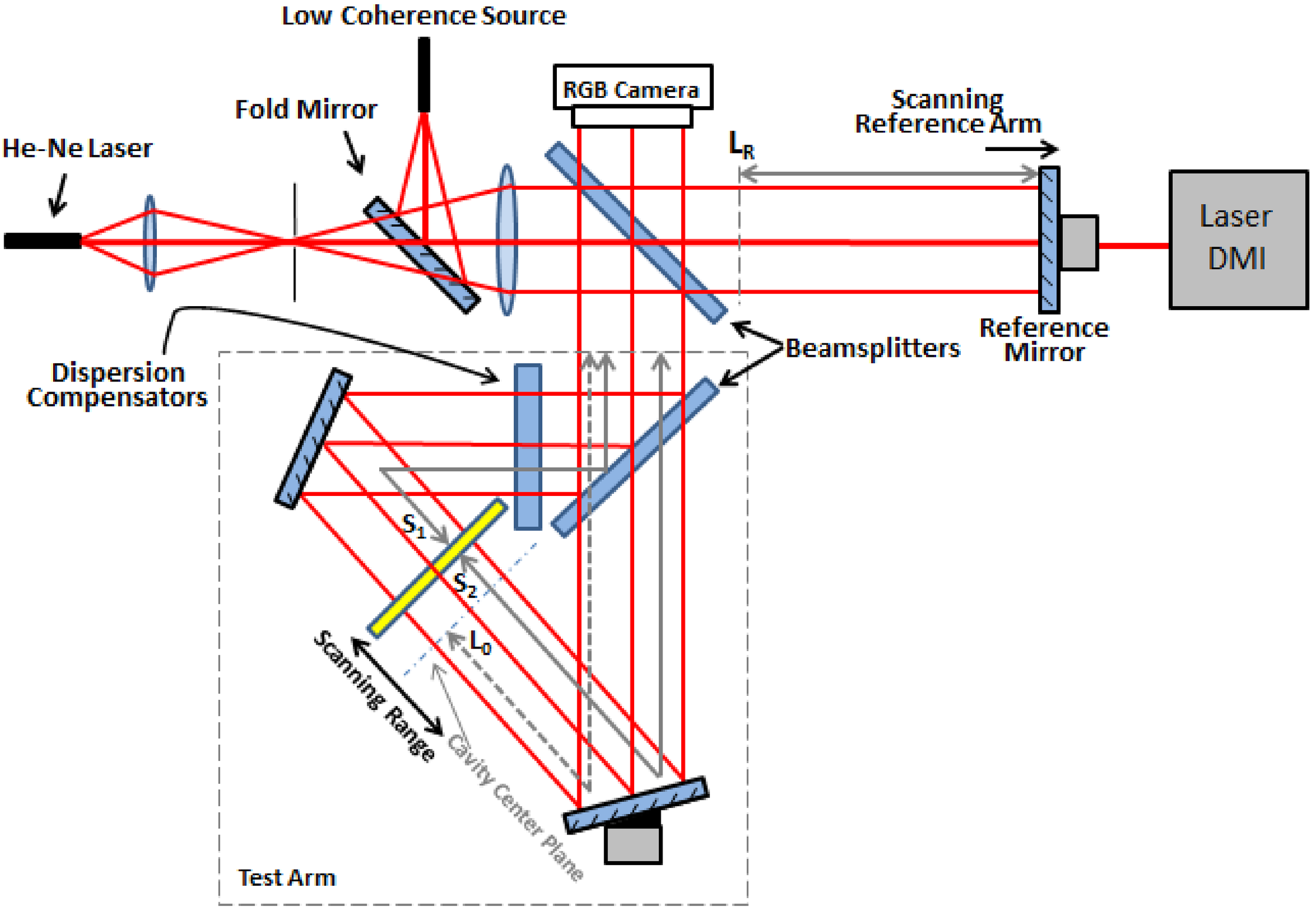
Measurand	Relative Index of Refraction	
Wavelength Range	VIS (0.4-0.7 µm)	
Measurement Range	Any	
Material Type	Gradient Index	
Wavelengths	0.450 µm	
	0.532 µm	
	0.657 µm	

Microscope Mach-Zehnder Interferometer



Measurand	Relative Index of Refraction	
Wavelength Range	VIS (0.4-0.7 µm)	
Measurement Range	Any	
Material Type	Gradient Index	
Wavelengths	0.4579 µm	0.5320 µm
	0.4756 µm	0.5435 µm
	0.4880 µm	0.6328 µm
	0.5145 µm	

Low Coherence Distance Measuring Interferometer (LCDMI)



Measurand	Absolute Thickness (map)
Wavelength Range	VIS (0.4-0.7 µm) Broadband
Measurement Range	< 50 mm
Material Type	Any