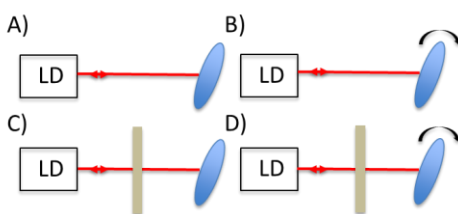


Collimated transmittance measurement device

Accurate, low cost, reliable systems are needed to characterize semi-transparent materials and to define their transmittance properties. This solution goes far beyond the boundaries of conventional methods used to get transmittance properties. Indeed, conventional methods require dark room configuration, complex and repetitive alignment steps.

DESCRIPTION*

- Optical solution based on optical feedback interferometry (OFI) requiring:
 - Moving or stationary reflecting surface / mirror
 - Laser source
- Transmittance is obtained by processing OFI signals recorded under different conditions:
 - A: Stationary mirror, no light propagation in the sample during test
 - B: Moving mirror, no light propagation in the sample during test
 - C: Stationary mirror, light propagates in the sample during test
 - D: Moving mirror, light propagates in the sample during test
- Power spectrum of OFI signals are post-processed thanks to a digital signal processor to zero order moment from which transmittance is computed
- Absorption μ_a and scattering μ_s coefficient can be computed



TECHNICAL SPECIFICATIONS

Working wavelength	Laser source dependant
Digitizing rate	5 MHz
Precision on μ_a et μ_s	4 %

COMPETITIVE ADVANTAGES

- Reliable
- Low cost
- Easy to implement
- Compact system

APPLICATIONS

- Optical material characterization

INTELLECTUAL PROPERTY

- Patent pending

DEVELOPMENT STAGE

- Technology validated at lab level



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