

### Metricon M-Lines (RI)

#### Principle:

The M-line is a technique used to measure the thickness and refractive index of films. It is based on the prism coupling technique.

The Metricon Model utilizes advanced optical waveguiding techniques to accurately measure thickness and refractive index/birefringence of the dielectric and polymer films. It has a unique advantage over the conventional instruments based on spectrophotometry.

No advanced knowledge of optical properties of the sample is required.

#### Current model:



Figure: Metricon

Video Link: <https://www.youtube.com/watch?v=Wd6LIX8aopE>

#### Features of Metricon M-Line

Routine index resolution of  $\pm 0.0005$  (accuracy of up to  $\pm 0.0001$  available for many applications).

Routine index resolution of  $\pm 0.0003$  (resolution of up to  $\pm 0.00005$  available for many applications)

High accuracy index measurement of bulk, substrate, or liquid materials including birefringence/anisotropy.

Rapid (20 second) characterization of thin film or diffused optical waveguides or SPR sensor structures.

Simple measurement of index vs. wavelength

Wide index measurement range (1 – 3.35)



# Instrument Description

## Sub Folder: Spectroscopy



### Typical samples:

Samples which are analysed include Films (SiO<sub>2</sub>, silicon nitride, sol gels, liquid crystals, electro-optic polymers, diamond, PMMA, holographic gels) and Bulk/substrate materials (quartz, optical glasses, PET, polycarbonate, polystyrene, ZnS, SiC).

### Standards:

Samples are assessed to international standards such as ATSM C1648 – 12(2018)

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