

Birefringence and Dispersion

Measurement and analysis of birefringence using the **Schmidt + Haensch** digital multiple wavelength refractometer **ATR-L**

Q

Question

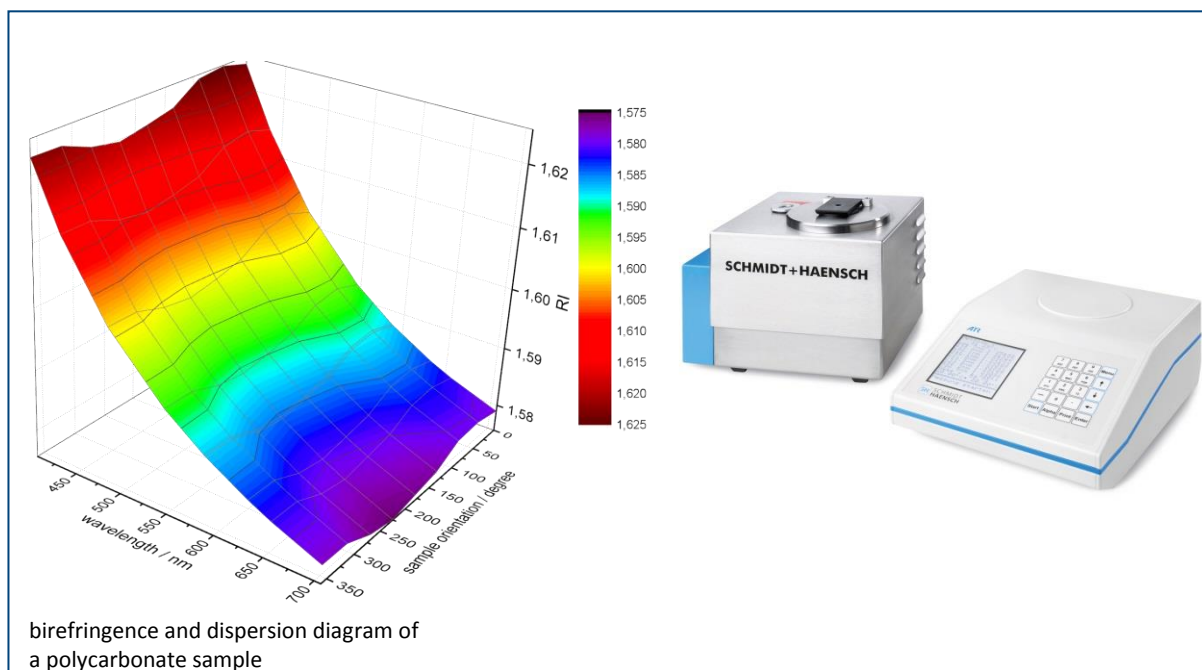
The measurement of birefringence and dispersion of directional (anisotropic) solids is useful if the materials should be used in the whole spectral range and in different directions.

A

Answer

Situation Analysis

There is a phenomenon of birefringence for solids such as polymers, which are oriented in a preferred direction. The exact knowledge of the material properties is of great importance in the polymer industry and fundamental research. Until now there is no technique to quickly measure the birefringence of these materials. So there is a great need for a method which provides a fast and simple measurement of birefringence and dispersion.



A

Answer

Solution and Improvements

The **Schmidt + Haensch ATR-L** allows the simple and automatic measurement of birefringence and dispersion. It measures at 7 wavelengths over the full visible range.

For the measuring of birefringence an optically specially fitted **ATR-L** with an add-on for solid samples is needed. While soft samples can be measured without any preparation, an immersion fluid for solid samples is needed. The immersion fluid creates a proper contact between the solid sample and the prism surface.

The **ATR-L** identifies the ordinary refractive index n_o and the extraordinary refractive index n_a of the birefringent medium. Multiple measurements have to be done while rotating the sample on the prism. After every measurement the device displays a number of data which allows to verify a successful measurement. The measured data can be easily saved, printed or displayed on a connected PC.

Schmidt + Haensch Product

ATR-L



Accessories

- Add-on for solid samples
- Software



Benefits

- Fast Measurement
- Precise And Accurate Results
- Small Sample Volumes

Industries

- Fundamental Research
- Material Development
- Polymer Industry
- Others