Measurement of Prism

INTRODUCTION

Prism is used as a part of various products such as video cameras, projectors, and liquid crystal televisions. By installing a prism measurement accessory into U-4100 spectrophotometer, the transmission spectrum and reflectance spectrum of a prism can be measured. This time, two types of prisms, a beam splitter and a polarized beam splitter, were analyzed. It was found that the beam splitter split the transmittance and reflectance of the incident light at 1:1 regardless of the polarization condition while the transmittance and reflectance by the polarizing beam splitter depended on the polarizing element.

SAMPLE

Sample : Beam splitter

INSTRUMENT CONDITIONS

Instrument : U-4100 spectrophotometer (solid sample measurement system)

Analysis wavelength range : 485 - 550 nm
Sampling interval : 1 nm

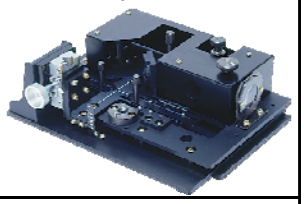
[UV/VIS]
Scan speed : 300 nm/min
Slit : 2 nm

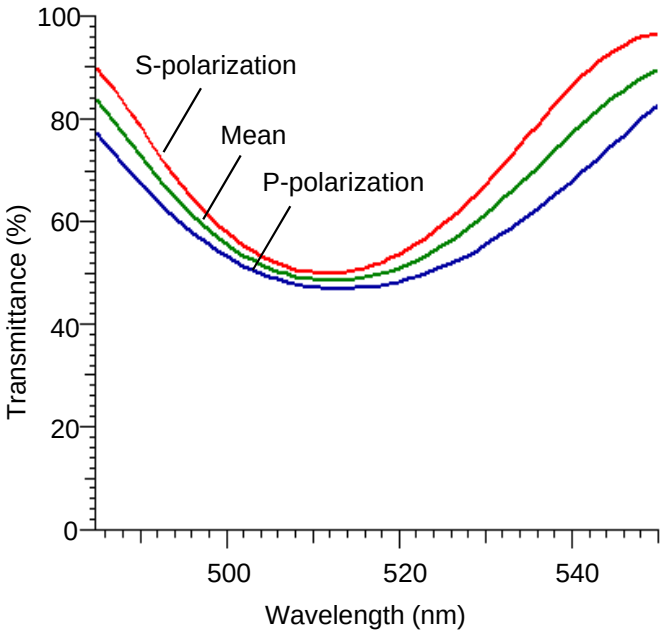
OTHER NECESSARIES

Polarizer holder
(P/N : 132-0325)

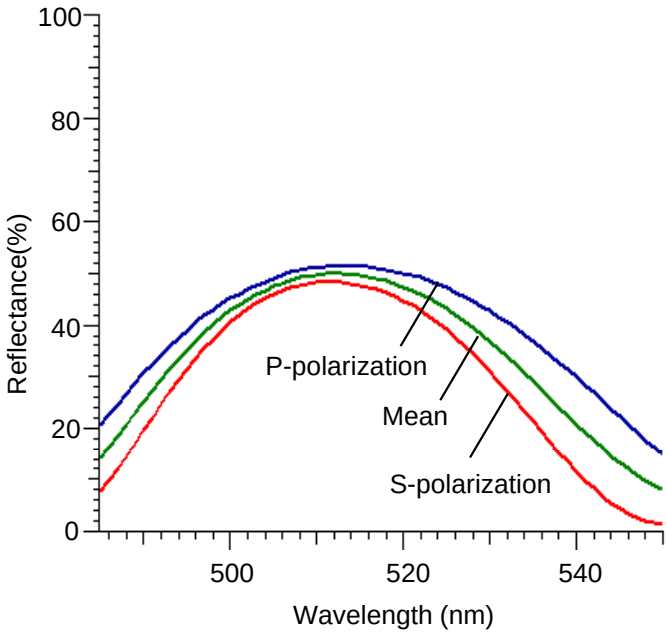
Glan Taylor polarizing prism
MGTYB 20

Prism measurement accessory
(P/N : 134-0110)





Transmission Spectrum of Beam Splitter



Reflectance Spectrum of Beam Splitter

KEY WORDS
Material/Processing Material Related, Glass/Ceramics, Industrial Chemistry, Prism, Transmittance, Reflectance, Spectrophotometer, Beam Splitter, U-4100, Material

Spectrophotometer (UV)

Sheet No. UV100019-01

Measurement of Prism

INTRODUCTION

Prism is used as a part of various products such as video cameras, projectors, and liquid crystal televisions. By installing a prism measurement accessory into U-4100 spectrophotometer, the transmission spectrum and reflectance spectrum of a prism can be measured. This time, two types of prisms, a beam splitter and a polarized beam splitter, were analyzed. It was found that the beam splitter split the transmittance and reflectance of the incident light at 1:1 regardless of the polarization condition while the transmittance and reflectance by the polarizing beam splitter depended on the polarizing element.

SAMPLE

Sample : Polarizing beam splitter

INSTRUMENT CONDITIONS

Instrument : U-4100 spectrophotometer (solid sample measurement system)

Analysis wavelength range : 550 - 800 nm
Sampling interval : 1 nm

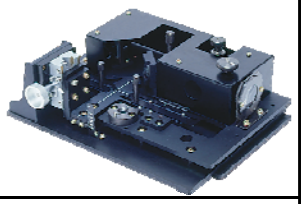
[UV/VIS]
Scan speed : 300 nm/min
Slit : 2 nm

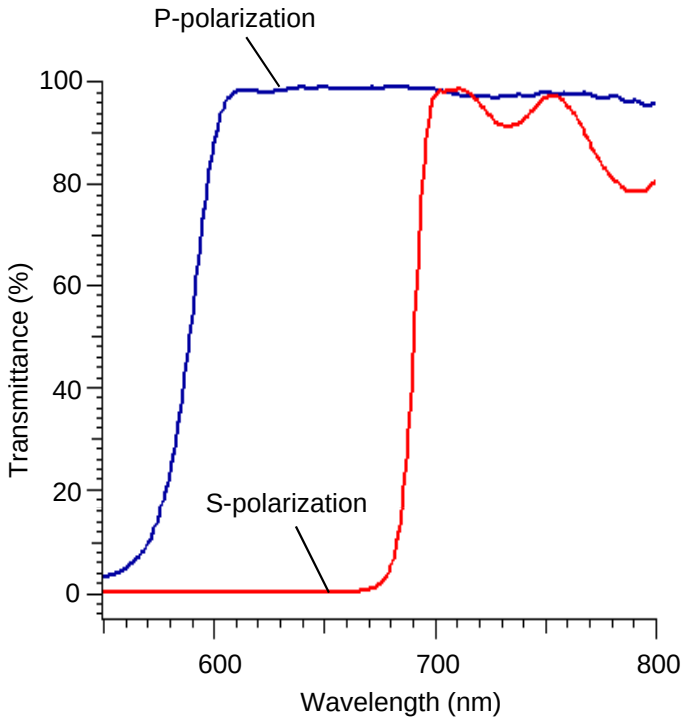
OTHER NECESSARIES

Polarizer holder
(P/N : 132-0325)

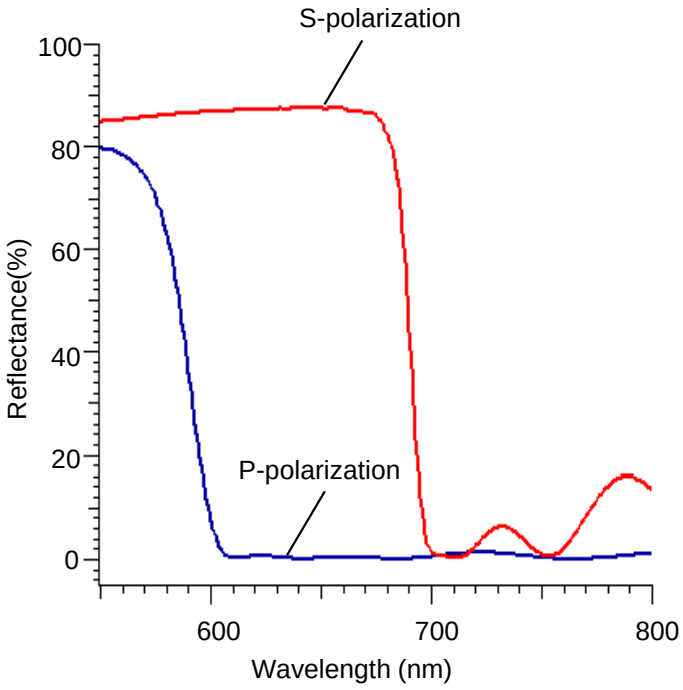
Glan Taylor polarizing prism
MGTYB 20

Prism measurement
accessory (P/N : 134-0110)





Transmission Spectrum of Polarizing Beam Splitter



Reflectance Spectrum of Polarizing Beam Splitter

KEY WORDS

Material/Processing Material Related, Glass/Ceramics, Industrial Chemistry, Prism, Transmittance, Reflectance, Spectrophotometer, Polarizing Beam Splitter, U-4100, Material

Spectrophotometer (UV)

Sheet No. UV100019-02