

Polarization Optics

Polarization optics are used to split unpolarized light into s-pol and p-pol beams. In the following, a list of common polarization optics can be found which are described in more detail in their corresponding subchapters.

In general, two different types of polarization optics are used, depending on the application. Polarization separation of type I is the result of a coating whereas polarization separation of type II is the result of birefringency.

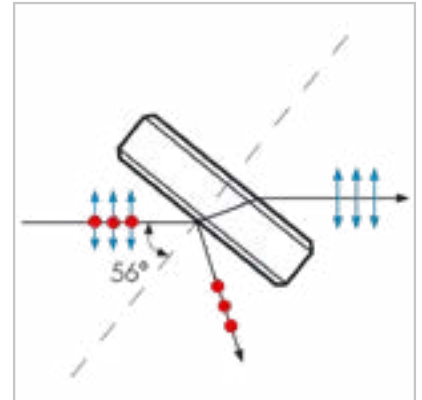
Overview

Coating-based Polarization

Thin Film Polarizers

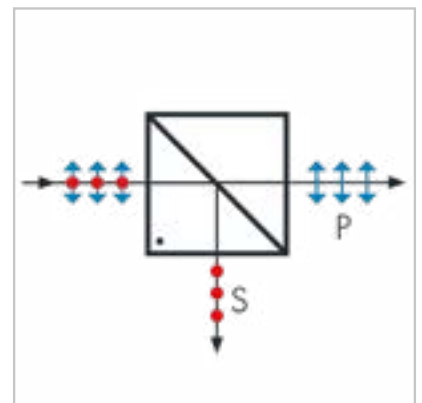
Thin film polarizers have proven to be well suited for polarization separation in high-power lasers, for use in fs laser applications, and in UV applications.

These plate polarizers are inexpensive but have a relatively low efficiency. One advantage of these components is that it is possible to manufacture very large apertures.



Polarizing Beam Splitter Cubes

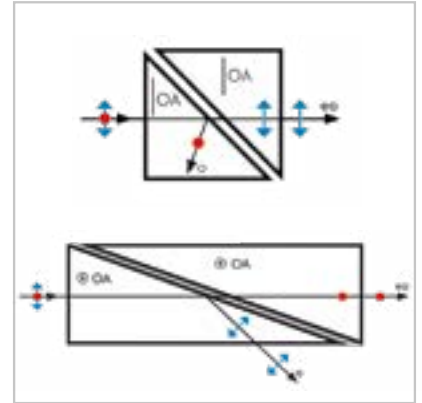
With beam splitter cubes, single wavelengths or small wavelength ranges can be split extremely efficiently at a very reasonable price.



Polarization Based on Birefringency

Glan Taylor / Glan Thompson Prisms

Both of these prisms are suited for a very large wavelength range. Furthermore, they are characterized by very high extinction ratios.



Beam Splitter Prism Polarizers

With beam splitter prism polarizers, s-polarized and p-polarized beams exit in one direction and are separated from each other at an angle.

They can also be used across a very large wavelength range.

