

Polarizers - lab report example

[Science](#), [Physics](#)



Polarizers

Polarizers are filters of light which allow only specific wavelengths to pass through. There are various categories or classes of polarizers. Among these are linear and circular polarizers. The filtering characteristic of polarizers enables them to isolate beams of mixed or non-defined wavelengths to beams of light bearing specific wavelengths. Among the primary application of polarizers include LCDs and optical instruments. Besides light beaming to specific wavelengths, polarizers also find other uses for electromagnetic waves such as x-rays and microwaves. With reference to the two major classes of polarizers, a number of applications are drawn from their characteristic behavior (Dipak, 143).

Linear polarizers as a class of polarizers are made up of two sub-categories including absorptive and beam-splitting. The major difference between beam-splitting and absorptive polarizers is that the former splits an incident beam into two beams of varying polarization while the latter splits unpolarized beam into two oppositely polarized states. An example of a linear polarizer is the wire-grind polarizer which is considered one among the simplest under the linear category of polarizers. An instance of the absorptive polarizer is the tourmaline crystal. However, this crystal is not used applicably as a polarizer as it appears colored (David, 13).

In practical applications, polarizers function under Malu's Law which states that when a perfect polarizer is positioned in a beam of polarized light is affected by the initial intensity of the beam and the angle between the beam's primary polarization path/direction and polarizer's axis.

Circular polarizers find more industrial use in that they are used in as filters

in photography. In addition, circular polarizers are also employed in the 3D-glass lenses where determination of whether an image is supposed to be visible to the right or the left eye (Mark, 315).

Works Cited

David, Klinger. Polarized Light in Optics and Spectroscopy. Academic Press, 1990.

Dipak, Basu. Dictionary of Pure and Applied Sciences. CRC Press. 2000; p. 143

Mark, Wolf. The Video Game Explosion: A History from PONG to PlayStation and beyond. ABC-CLIO 2008; p. 315.