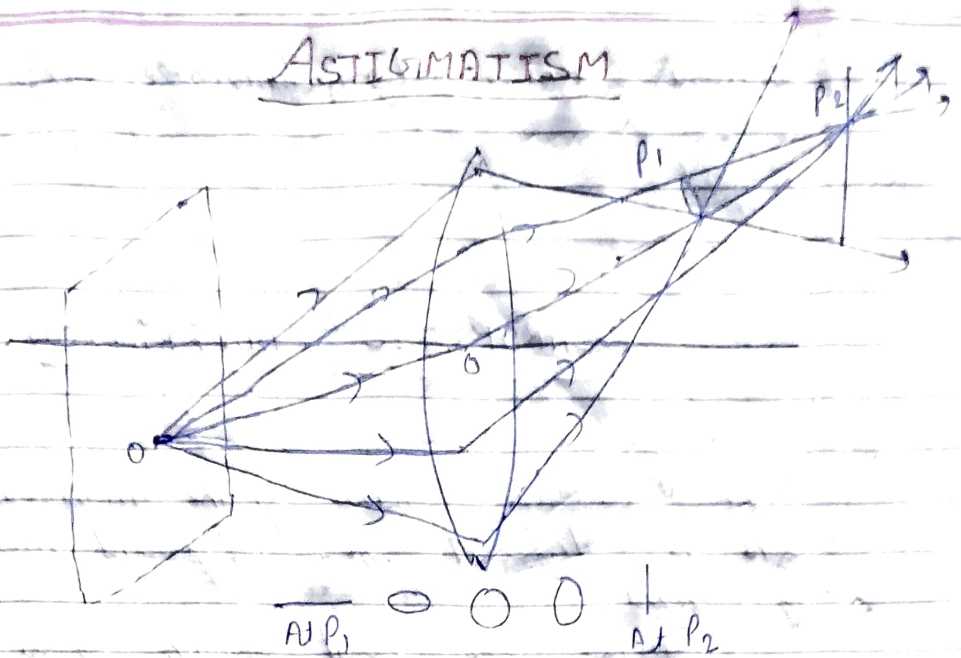


ASTIGMATISM



Astigmatism aberration is similar to comatic Aberration because in both aberration object lies off the principal axis

⇒ In comatic Aberration the spreading of the image takes place in a plane perpendicular to the lens axis and in astigmatism the spreading takes place along the lens axis

Methods of Reducing Astigmatism

- (i) Astigmatism Aberration occurs due to large difference of angle between Rays and principal axis with the help of suitable stops (circular hole, obstacle) Astigmatism can be reduced.
- (ii) Astigmatic difference of images formed by convex lens and concave lens are opposite. Hence by suitable combination of convex and

concave lens astigmatism can be reduced

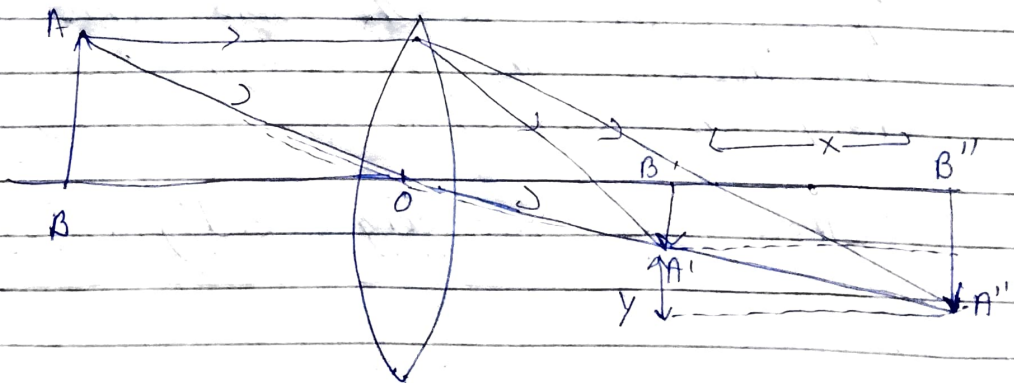
CHROMATIC ABERRATION

The Refractive index of the material of lens is different for different wavelength of light

Hence the focal length of a lens is different for different wavelengths

* The variation of the image distance from the lens known as axial or longitudinal chromatic Aberration

* The variation in the size of image is known as lateral chromatic Aberration



$x \Rightarrow$ Axial chromatic Aberration

$y \Rightarrow$ Lateral chromatic Aberration