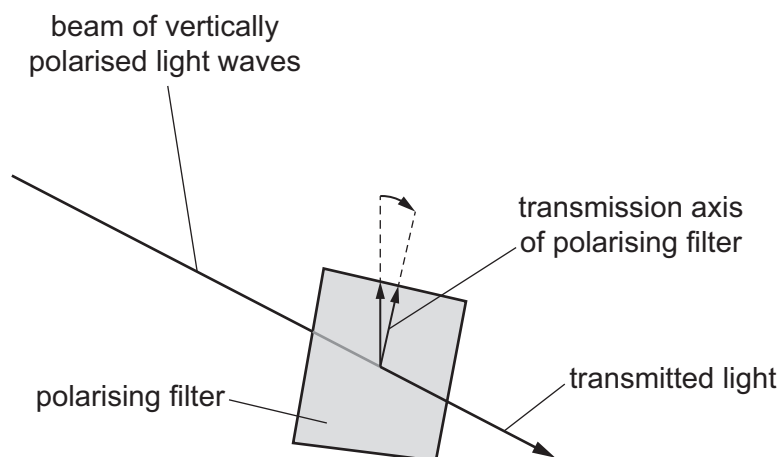


- 22 An observer hears a sound wave emitted from a moving source.

The observed frequency is less than the frequency of sound emitted from the source.

What could be the reason for this?

- A The source is moving away from the observer.
 - B The source is moving towards the observer.
 - C The speed of the sound wave in air decreases due to the movement of the source.
 - D The speed of the sound wave in air increases due to the movement of the source.
- 23 What is the approximate range of frequencies of electromagnetic radiation visible to the human eye?
- A (430–750) kHz
 - B (430–750) MHz
 - C (430–750) GHz
 - D (430–750) THz
- 24 A beam of vertically polarised light is incident normally on a polarising filter. The filter can be rotated so that it is always in a plane perpendicular to the beam. The transmission axis of the filter is initially vertical.



The filter is first rotated clockwise by an angle of 30° so that the transmitted light waves have intensity I_{30} . The filter is then rotated clockwise by a further angle of 30° .

What is the new intensity of the transmitted light waves?

- A $0.25 I_{30}$
- B $0.33 I_{30}$
- C $0.75 I_{30}$
- D $0.87 I_{30}$