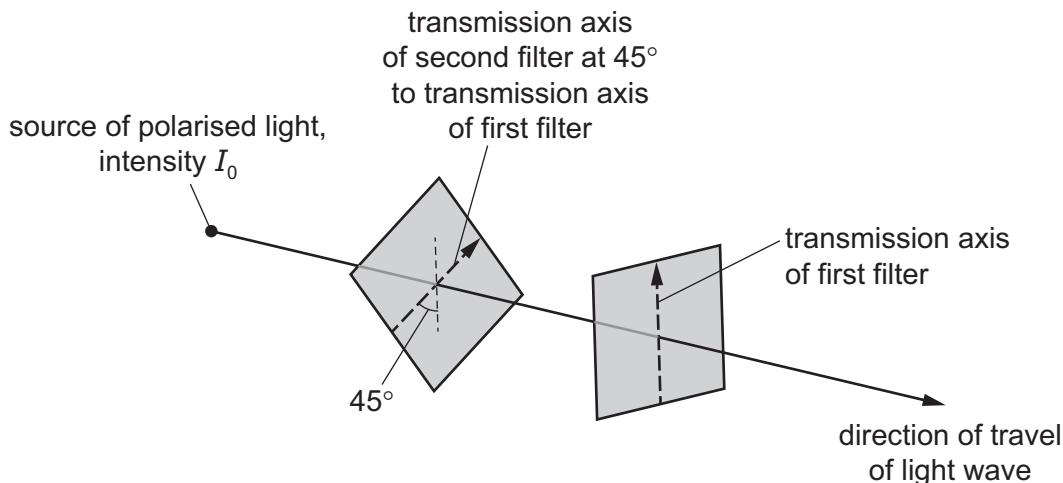


- 24** A plane polarised light wave of intensity  $I_0$  is incident normally on a polarising filter. The initial intensity of the transmitted wave is 0.

A second polarising filter is then inserted between the source and the first filter. Its transmission axis is at  $45^\circ$  to the transmission axis of the first filter, as shown.



What is the intensity of the transmitted wave from the filter combination?

**A** 0

**B**  $\frac{I_0}{8}$

**C**  $\frac{I_0}{4}$

**D**  $\frac{I_0}{2}$