

- 30** Light of wavelength 450 nm is incident on a metal surface. The most energetic electrons ejected from the metal surface are undeflected as they pass through a region of mutually perpendicular magnetic and electric fields of strength $2.0 \times 10^{-3} \text{ T}$ and 1400 V m^{-1} , respectively.

What is the work function energy of the metal?

- A** $2.2 \times 10^{-19} \text{ J}$ **B** $4.4 \times 10^{-19} \text{ J}$ **C** $6.6 \times 10^{-19} \text{ J}$ **D** $8.8 \times 10^{-19} \text{ J}$

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