



Two photon transition!





No  
Transition

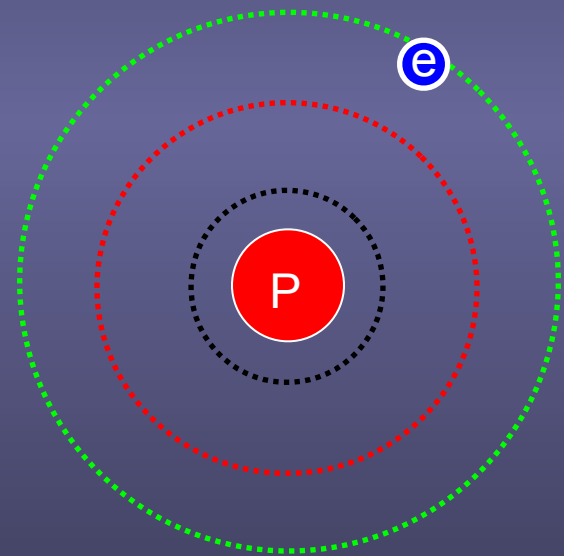


A 3D diagram featuring a dark purple rectangular block on the left and a dark purple cylinder on the right. The block has the text "Light Source" written on its front face in white. The cylinder is positioned to the right of the block, with its circular end face facing right. The entire scene is set against a white background.

Light Source

# How do we study atoms?

- Spectroscopy – the use of light emission and absorption to study matter
- First, we excite an atom using light
- Energy of a photon proportional to frequency (color);  $E=h\nu$



Light must have the right frequency to result in a transition

# How do we study atoms?