

BOHR MODEL, ENERGY LEVELS

XII- SCIENCE

SUBJECT : (PHYSICS)
CHAPTER NUMBER:12
CHAPTER NAME :ATOMS

CHANGING YOUR TOMORROW

BOHR'S MODEL OF HYDROGEN ATOM:

- First Postulate: Atoms have some specific stable energy states (called stationary states) where electrons could orbit around the nucleus without emitting radiation
- Second Postulate: Orbiting of electrons occur only in the orbits (called stable orbits) where electrons' angular momentum (L) is equal to the integral multiples of $h/(2\pi)$, leading to the quantization of moving electron

$$L_n = mvd = nh/(2\pi)$$

Slide 2

1

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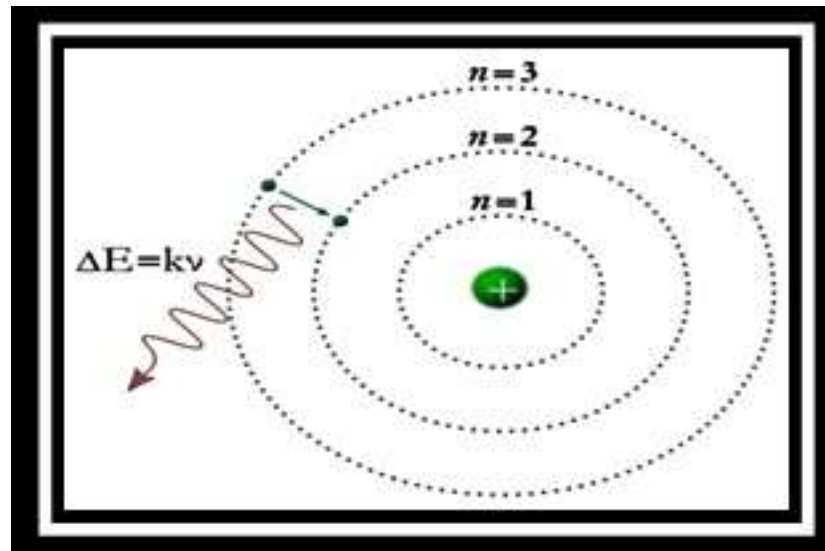
-Swoyan Satyendu

, 17-06-2020

BOHR'S MODEL OF HYDROGEN ATOM:

- Third Postulate: Electron while jumping from higher(initial) energy state to lower(final) energy state, emit a photon of energy equal to the energy difference between the 2 energy states, and its frequency is given by:

$$h\nu = E_i - E_f$$



Slide 3

2

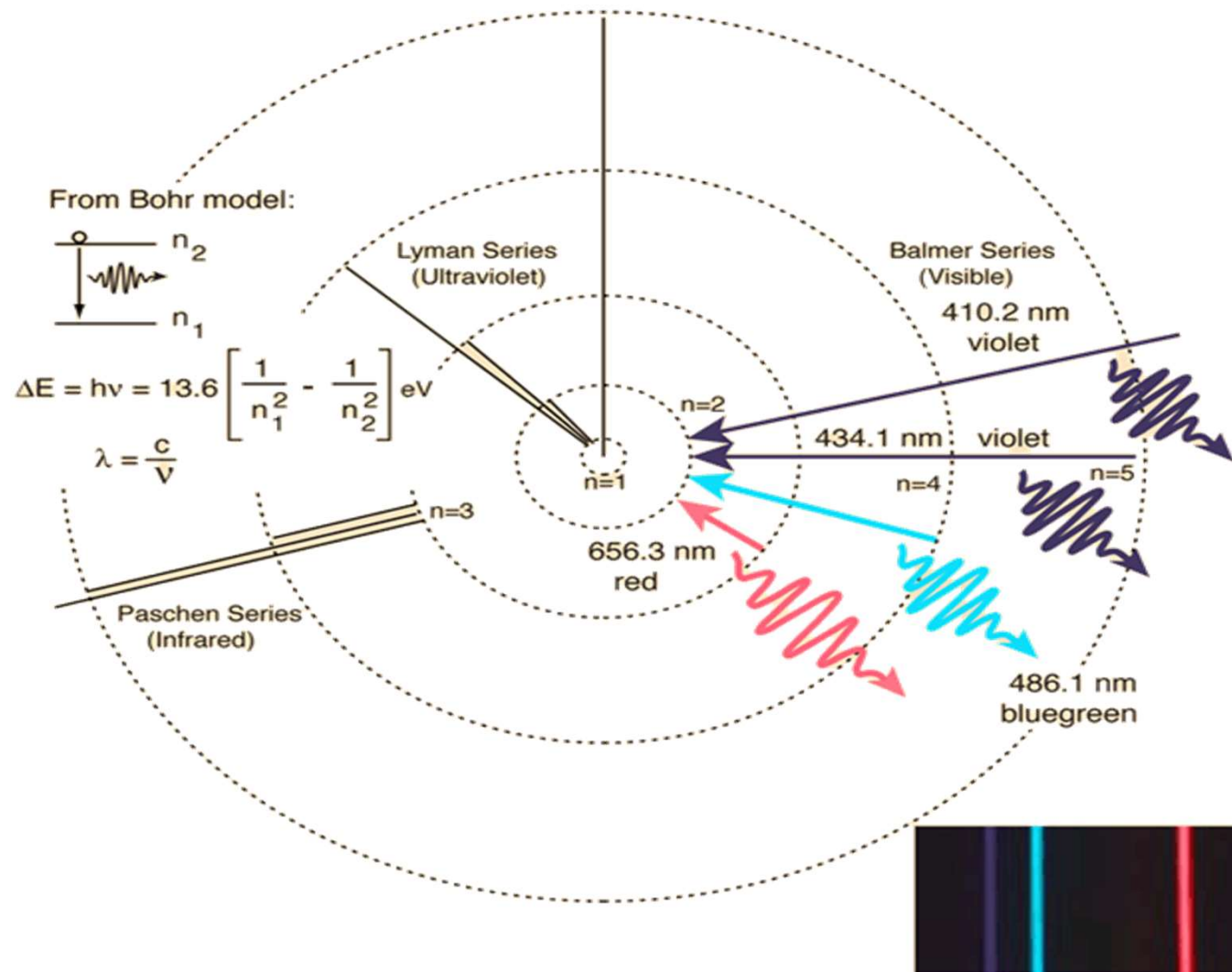
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ENERGY LEVELS



Slide 4

3

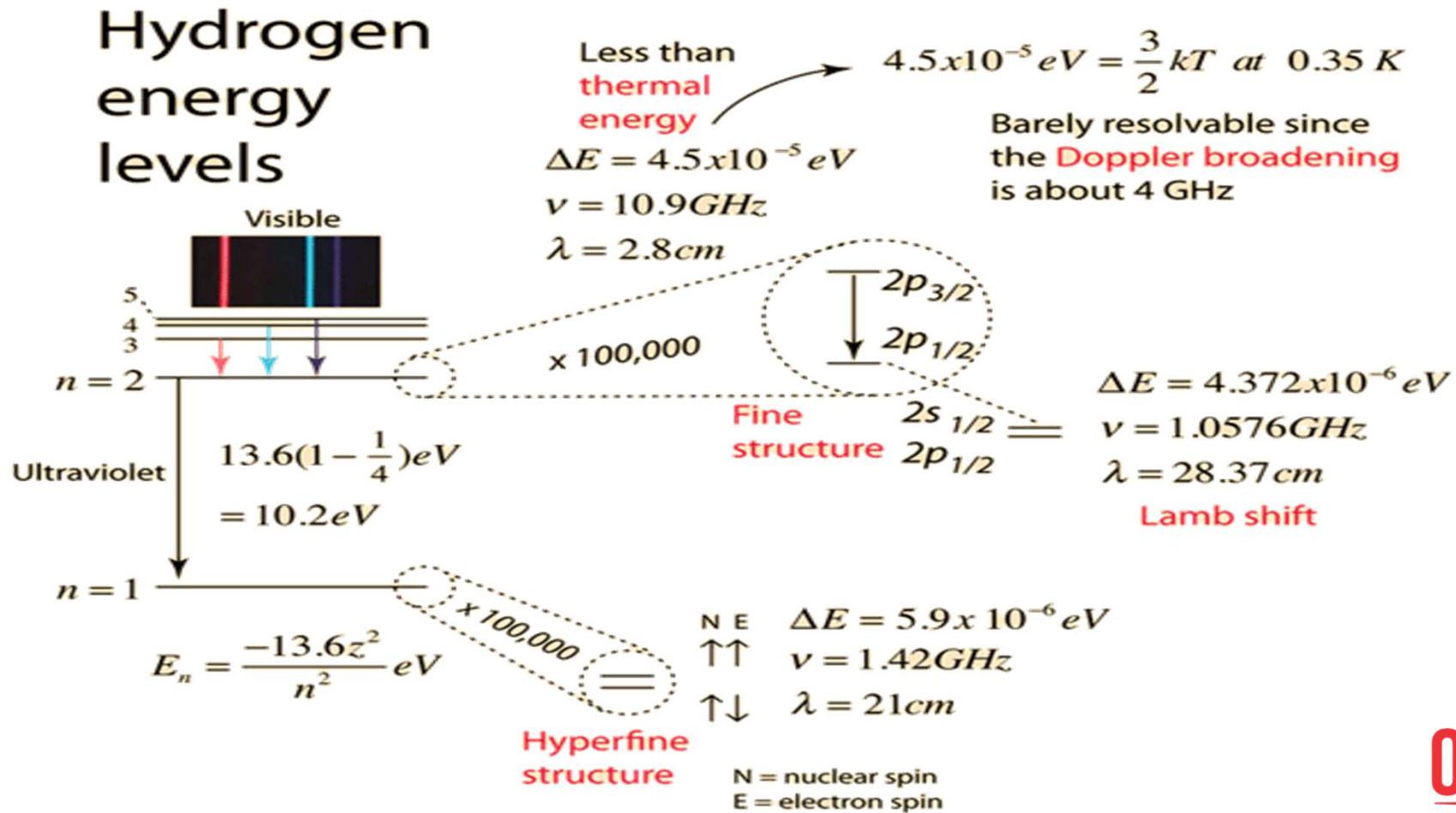
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Slide 5

4

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THANKING YOU
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