

The reason of hydrogen atom producing ionization energy

HuangShan

(Wuhu Institute of Technology, China, Wuhu, 241003)

Abstract: Why does hydrogen atom produce ionization energy? Here we can find an answer that looks very simple or very pleasing.

Key words: Hydrogen atom, ionization energy, Maxwell equations, gravitational constant.

Why does hydrogen atom produce ionization energy? Because the space-time structure of our universe is like this.

$$\begin{aligned}
 \frac{(h)(R_{\infty})^2(c)}{(e_0)} &= 13.6 \\
 &= (\mu_0)(R_{\infty}) \\
 &= \frac{(2\pi)(i)(\varphi_E)}{(4\pi)(R_{\infty})(\varphi_B)} \\
 &= \frac{(2\pi)(i)(\varphi_E)}{(4\pi)(R_{\infty})^2(\varphi_B)} * (R_{\infty}) \\
 &= \frac{(2\pi)(i)(\varphi_E)}{(4\pi)(R_{\infty})^2(\varphi_B)} * \frac{(2\pi)(a_0)^2}{(m_{\text{atom}})} \\
 &= \frac{(2\pi)(i)(\varphi_E)}{(4\pi)^2(R_{\infty})^2(\varphi_B)} * \frac{(4\pi)(2\pi)(a_0)^2}{(m_{\text{atom}})} \\
 &= \frac{(2\pi)(i)(\varphi_E)}{(4\pi)^2(R_{\infty})^2(\varphi_B)} * \frac{(4\pi)(2\pi)(i)(a_0)^2}{(i)(m_{\text{atom}})} \\
 &= \frac{1}{(\varepsilon_0)(4\pi)} \frac{1}{(c)^2} * (G_N) \frac{1}{(c)} \frac{1}{(m_{\text{atom}})} \\
 &= \frac{1}{(\varepsilon_0)(4\pi)} \frac{1}{(c)^2} * (G_N) \frac{1}{(i)(\varphi_D)}.
 \end{aligned}$$

Due to $(\varphi_B) = (e_0)$, $(\varphi_C) = (m_{\text{atom}})$, $(i) * (\varphi_D) = (c) * (\varphi_C)$,

Therefore, the reason why hydrogen atoms produce ionization energy is $(\varphi_B) \frac{1}{(\varepsilon_0)(4\pi)} \frac{1}{(c)^2} * (G_N) \frac{1}{(i)(\varphi_D)}$.

It is equivalent to $\frac{(\nabla \cdot E)}{(4\pi)(c)^2} * \frac{(\nabla \cdot D)}{(4\pi)(i)(\varphi_D)}$.

Reference: <https://doi.org/10.5281/zenodo.7674542>.