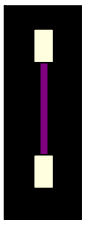
The Four Problems...

1. Atomic structure: why aren't the electrons in the nucleus?



2. Why do gases glow when electrified?

3. Why are only certain colors seen?

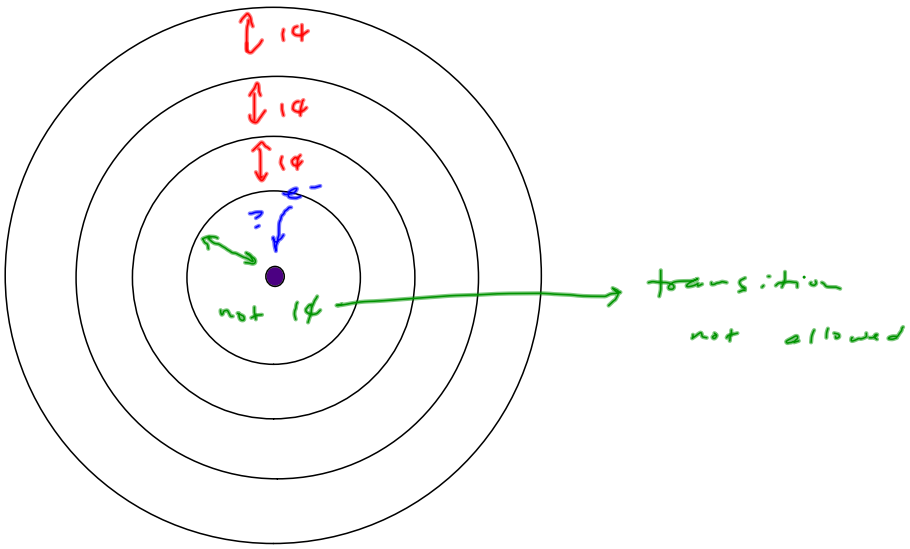
4. $1/\lambda = R(1/4 - 1/n^2)$?

   $1/\lambda = R(1/9 - 1/n^2)$?

   $1/\lambda = R(1 - 1/n^2)$?

Sep 21-7:03 AM

Bohr's Answer



Sep 21-7:03 AM

$c = \lambda\nu$ $\quad E = h\nu$

$$E = -k\left(\frac{1}{4} - \frac{1}{n^2}\right)$$

$-k$

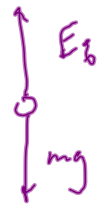
$$E = Rhc\left(\frac{1}{n_1^2} - \frac{1}{n_2^2}\right)$$

to from

$$E = -k\left(\frac{1}{n_1^2} - \frac{1}{n_2^2}\right)$$

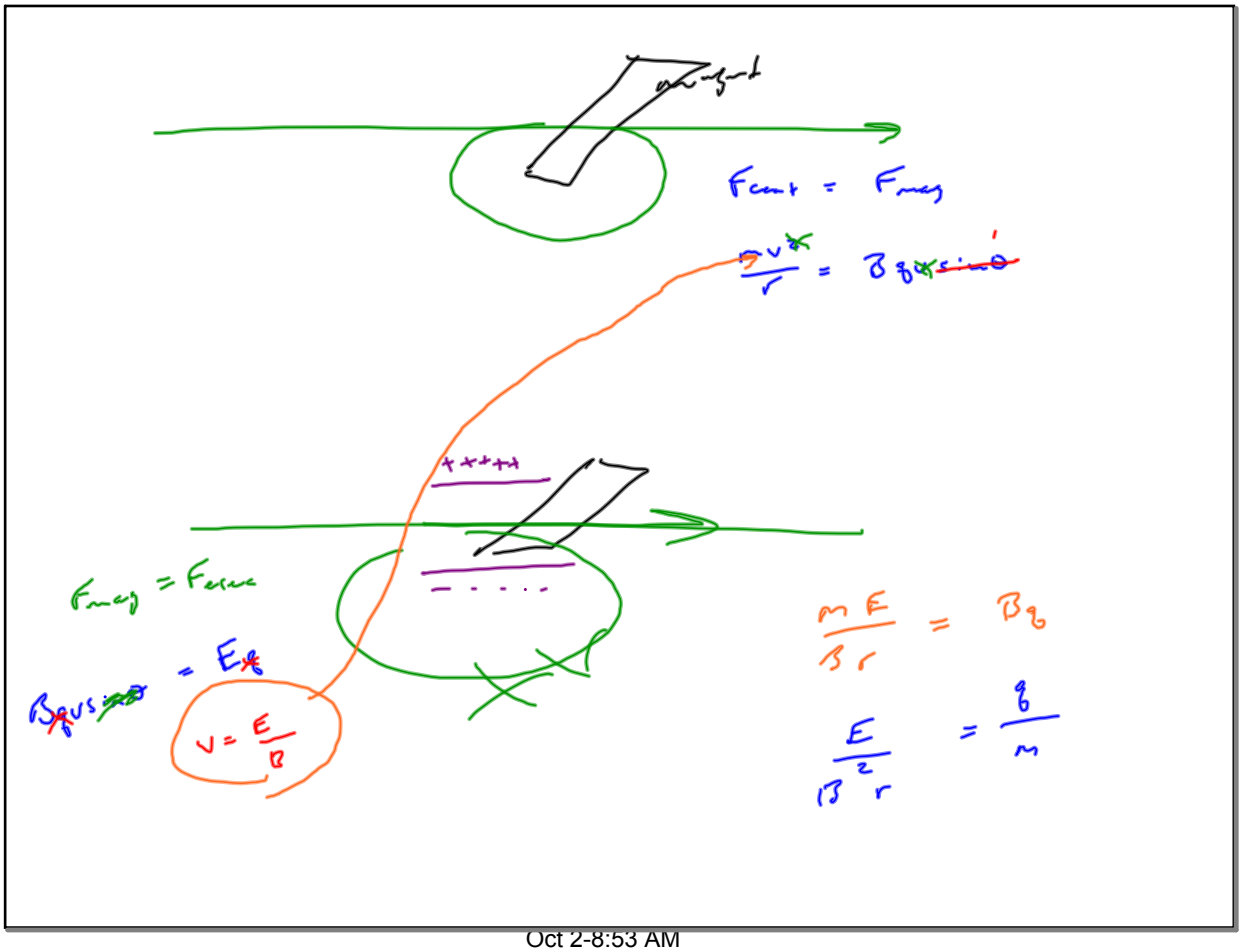
$$\frac{1}{\lambda} = R\left(\frac{1}{n_1^2} - \frac{1}{n_2^2}\right)$$

Sep 21-7:03 AM



$F_g = mg$

Oct 2-8:44 AM


$F_{cent} = F_{mag}$
$\frac{mv}{r} = Bq$
$F_{mag} = F_{elec}$
$= E$
$v = \frac{E}{B}$
$\frac{mE}{Br} = Bq$
$\frac{E}{B^2 r} = \frac{q}{m}$

Oct 2-8:53 AM