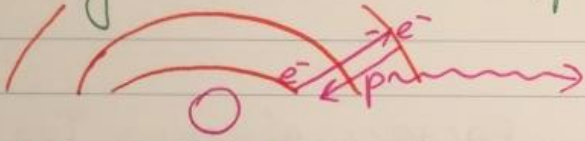
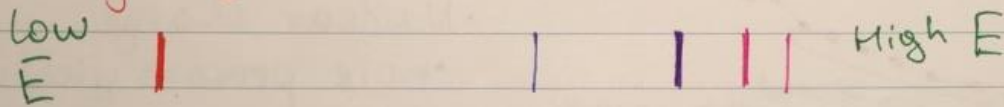


Excited electrons $\xleftarrow{\text{thermal / electrical}}$ Electrons move up energy levels and when they drop to ground state, photons are produced.



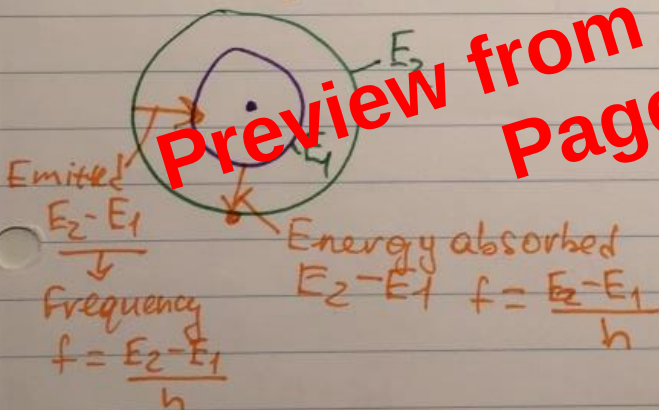
The different frequencies produced can be recorded on line spectra.

Hydrogen:



- emission spectrum is made up of separate lines, discontinuous
- lines converge as frequency or energy increases.

Energy levels:



Distance between energy levels means higher energy differences.

The difference between energy levels converges as you move further from nucleus. The convergence limit is the energy for ionization $n=1 \rightarrow n=\infty$

