

Bohr proposed a quantum mechanical approach to the motion of electron, introducing quanta.

He proposed that an electron in an atom can have only certain orbits with particular values.

The Bohr model requires that a whole number multiple of electron wavelengths equal the circumference of an orbit. If the condition is not met, then the Bohr model does not allow the orbit.

According to Bohr, when an electron is in an allowed orbit, it does not radiate energy. An electron will emit a single photon when it moves from a higher energy level to a lower one, and it can only absorb energy equal to the energy difference between the lower and higher state.

Using de Broglie's model, the allowed electron orbits in hydrogen correspond exactly to those orbits in which electron waves form circular standing waves around the nucleus.