

The Mechanism of Atomic Energy Absorption and Emission

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Abstract: On the basis of concentric spherical layer-type model and multi-quantum energy levels distribution, propose a new mechanism of atomic energy absorption and emission.

“Everything should be made as simple as possible, but not simpler.”

-----Albert Einstein

We know, in its benchmark energy state (vacuum state), the benchmark energy of an atom is E_0 , and there be $E_0 = E_{10} + E_{20} + \dots + E_{k0} = m_1 h \nu_1 + m_2 h \nu_2 + \dots + m_k h \nu_k$. E_0 is the benchmark energy of the atom; E_{i0} is the benchmark energy of the i -th charge layer; E_i is the benchmark energy level of the i -th charge layer, $E_i = h \nu_i$; $E_{i0} = m_i E_i = m_i h \nu_i$; and m_i is a positive integer; $i=1,2,\dots,k$, [1].

Energy field, with the atomic layers of the k -th occurrence of a charge (energy layers) of each layer with a charge coupled resonator frequencies, the quantum of energy that different energy levels were passed (transport) to the same frequency of the charge layer, after absorbed the quantum of energy, the energy of charge layers increases, the energy state that charge layer has, is higher than its benchmark energy state---Energy excited state.

Charge layers (energy layers) in the excited state (energy excited state), holding the energy density and the natural frequency of their benchmark energy state, however, and their volume expansion increases.

Energy excited state lifetime for each energy layer (charge layer) of an atom is limited, the one energy excited state lifetime of each layer, i.e. one vibration time should be $1/\nu_i$ (s); ν_i is the benchmark frequency of the i -th energy layer (charge layer), $i=1,2,\dots,k$.

One energy excited state lifetime (vibration cycle): the all time used that from the benchmark energy state (vacuum state), absorb energy, relaxor, then emission the energy which absorbed out, and return to benchmark energy state.

When more than one or all of the energy layers (charge layers) are in energy excited state, the energy state of the atom and quantum of energy it absorbed in a state, that is a plurality linear energy bodies (energy layers), according to their respective benchmark frequency, the same time in the process of absorbing and emission of energy superposition state, so it is impossible to describe by the Wave Function.

When more than one or all of the energy layers (charge layers) are in energy excited state, atomic energy state is:

$$E = E_{i0} + n_1 h \nu_1 + E_{20} + n_2 h \nu_2 + \dots + E_{k0} + n_k h \nu_k$$

E_{i0} is the benchmark energy of the i -th charge layer; $h \nu_i$ is quantum of energy; n_i is a nonnegative integer; $i=1,2, \dots, k$; E satisfies: $E_0 \leq E \leq E_{\max}$; E_0 is the benchmark energy of the atom; E_{\max} is the maximum energy state that the atom able to achieve.

When (the same element) the same energy level of each atom ($E_i = h \nu_i$; $i=1,2,\dots,k$) of the corresponding charge layer are equal to n_i , these atoms are in the same energy state (quantum state) --- Bose Einstein condensate.

When a plurality of linear energy bodies (charge layers) in energy excited state, also a plurality light sources of different frequencies "light", which is the so-called "light interference phenomenon" the real reason. By Thomas Young of experimentally derived "light interference," the conclusion is incorrect.

Thomas Young's experiment phenomenon is actually a number of different frequencies (different wavelengths) of light generated by each respectively own pattern (light stripes), and its essence is another form and shape of atomic spectroscopy spectrum lines.

Overall, the process of absorption and release of atomic energy, and is a constant absorption of energy (quantum of energy) and subject to the influence of vacuum fluctuations, the energy radiated by spontaneous emission into the vacuum field, and then return to the benchmark energy state (vacuum state) cyclical process. This process is dynamic, multi-parallel state, is an energy-levels quantization and a superposition state of energy absorption and release processes of a plurality linear energy bodies, with the coexistence of space and in time, consequential and continuity of time.

Reference

- [1] < The Causes and Mechanism of Atomic Energy Levels quantization >
<http://vixra.org/abs/1402.0104>