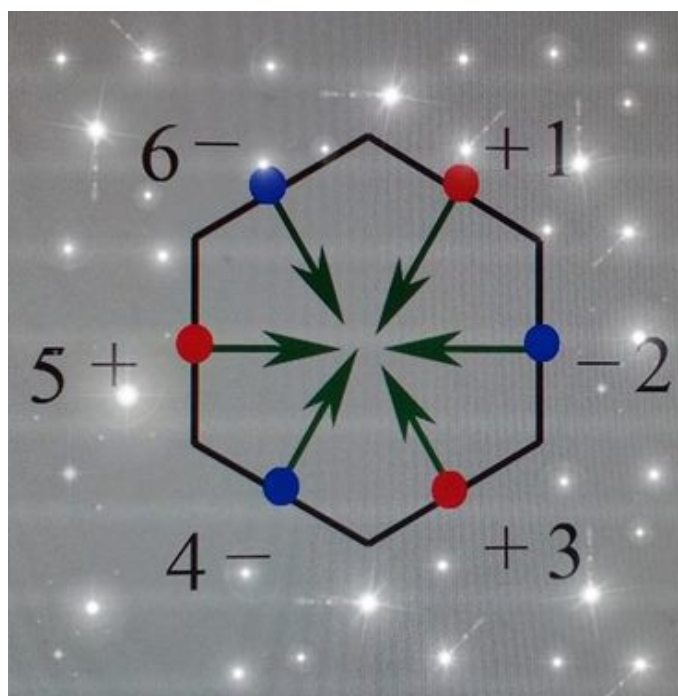


## Benzene Quant.



It a good visualization of the boiling of electron-positron pairs, which always occurs in chemical bonding with any multiplicity. We got a beautiful "quantum-mechanical pattern" of a benzene molecule with a three-electron bond. I really like :), because it really conveys the meaning ...

"...Therefore, in the field of chemical bonding, in this case, an electron can not be regarded as a "point object", since it (an electron) will spend part of its time in the state "electron + pair (positron + electron)", and therefore its interaction should be described in the framework of quantum field theory.

This approach makes it possible to explain how, in the case of many-electron chemical bonds (two-electron, three-electron, etc.), repulsion between electrons is overcome: since the chemical bond is actually a "boiling mass" of electrons and positrons, virtual positrons "help" overcome the repulsion between electrons. This approach assumes that the chemical bond is in fact a closed spatial bag (a potential well in the energy sense), in which "boiling" of real electrons and also virtual positrons and electrons occurs, and the "volume" of this potential bag is actually a "volume" of chemical bond and also the spatial measure of the quantum-mechanical uncertainty in the position of the electron.

Strictly speaking, with such a consideration, the electron no longer has a certain energy, momentum, coordinates, and is no longer a "point particle", but actually takes up the "whole volume" of chemical bonding. It can be argued that in the chemical bond a single electron is depersonalized and loses its individuality, in fact it does not exist, but there is a "boiling mass" of real electrons and virtual positrons and electrons that by fluctuate change each other. That is, the chemical bond is actually a separate particle, as already mentioned, a semivirtual particle. Moreover, this approach can be extended to the structure of elementary particles such as an electron or a positron: an elementary particle in this consideration is a fluctuating vacuum closed in a certain spatial bag, which is a potential well for these fluctuations.

It is especially worth noting that in this consideration, electrons are strongly interacting particles, and therefore the Pauli principle is not applicable to chemical bond (for more details see section "The Pauli Principle and the Chemical Bond") and does not prohibit the existence of the same three-electron bonds with a multiplicity of 1.5."

pp. 101 - 103 Review. Benzene on the Basis of the Three-Electron Bond. (The Pauli Exclusion Principle, Heisenberg's Uncertainty Principle and Chemical Bond).

<http://vixra.org/pdf/1710.0326v4.pdf>      <https://dx.doi.org/10.2139/ssrn.3065288>

Benzene on the basis of the three-electron bond:

Review (138 pages, full version). Benzene on the Basis of the Three-Electron Bond. (The Pauli exclusion principle, Heisenberg's uncertainty principle and chemical bond).

<http://vixra.org/pdf/1710.0326v4.pdf>   <https://dx.doi.org/10.2139/ssrn.3065288>

The present work shows:

- 1.The aromatic bond is a three-electron bond in flat cyclic systems with a specific interaction of electrons through the cycle.
- 2.The present work shows the inapplicability of the Pauli principle to the chemical bond (pp. 103-105).
- 3.In addition, a new theoretical model of the chemical bond is proposed on the Heisenberg uncertainty principle (pp. 92-103).
- 4.That is, in fact, in this paper it is shown that modern concepts of the chemical bond can not be strictly considered theoretically true, but rather qualitative with empirical quantitative calculations.

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