Classical and Quantum Aspects of Dirac-Einstein Equation

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ABSTRACT: It has been proved that the taking under consideration the amendment to the Dirac equation permits to improve the Bohr model of the hydrogen atom using the Dirac-Einstein equation.
Moreover, one has presented that the classic-quantum Dirac-Einstein equation describes the motion of the electron around a few nuclei in a molecule.

The whole Dirac – Einstein equation should contain in its Dirac part three amendments (relativistic mass, spin-orbit coupling and the third term) (1).
Thanks to this the hydrogen atom with all quantum effects can be described by the corrected Bohr model, so both in the classic and quantum way.
Moreover it has been explained in the classical way, why the electron in the atom doesn't fall onto the center although it moves around it [1].
The taking under consideration the three amendments in the Dirac equation makes that both members of the Dirac-Einstein equation manifest relativistic effects.
In the first term the relativistic effects are introduced by the momentum and not by the rest mass.
The Dirac-Einstein equation (together with the three amendments to it), in which the tensor of mass from the Einstein equation has been placed permits to describe the effect of motion of an electron around a few nuclei in the particle.
The amendments to the Dirac equation have the shape:

$$H' = -\frac{p^4}{8m_0^3 c^2} + \frac{2e^2\hbar^2\pi}{2m_0 c^2} + \frac{2c^3\hbar}{2m_0^2 c^2 r^3}\ \vec{s}\cdot\vec{l} \qquad (1)$$

In the many-nuclear particle we have to take under consideration the sum of all nuclei, so Z and all r (and $\vec{l}$ too).
In the many-electron and many-nuclear particle we have yet the mutual interactions of charges.

These interactions are taken under consideration by the tensor of charge and by the amendment to it at the right member of the equation in the work [2].

References:

[1] Z. Morawski, “New Aspects of Bases of Physics”
[2] Z. Morawski, „Charge Modifications to Einstein Equation”