

Editor's Comment:

The author tries to use the gauge transformation, which he has applied to the Lagrangian formalism, also to the Hamiltonian one. The Lagrangian (1) is written with wave functions ψ^* and ψ . The Hamiltonian density (6) is written without wave functions ψ^* and ψ . The wave function in (6) is absolute different that from that in (1). So, the basic operators – (1) and (2) - are very different. It is obvious from the beginning that the application of his approach to the Hamiltonian formalism can be successful or unsuccessful. The researcher has to try. The author tried and did not receive a positive result.

It is known from the classical field theory that the Lagrange formalism is the most fundamental, and the Hamilton's is not so basic.

The correct conversion of one formalism to the other one is possible only if

$\partial^2 L / \partial q_i' \partial q_i'$ is not degenerated, i.e. it is not equal to zero (here q_i' is the velocity's component).

I do not see any paradox. The author did not take into account that each of the methods – Lagrangian and Hamiltonian – is functioning in its own framework of rules. It will be more paradoxical, if suddenly the author has reached a success applying the Lagrangian transformation to Hamiltonian's method.

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