

Review of: "Electron Spin Topology in Excited States and Fractional Spin Effect"

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Potential competing interests: No potential competing interests to declare.

In their previous article [1] the authors have shown that electron spin has wave nature. For this purpose they solved Dirac equation for the electron confined in the infinite wall, and obtained $s=1/2$, as expected.

In present work they go further and analyzed the whole spectrum of the electron and evaluated Zeeman shift. Although, the task about the electron in the infinite walls is a good exercise for a student, their interpretation of solutions is rather original.

Unfortunately, some sentences in paper are trivial, speculative or unclear.

Examples:

1) "Since spin is a wave property, its dimensions can be larger than that of the field"???

2) "Any change of the boundary conditions alters the wave functions, and hence the spin states". They mean spin projection s_z ?

3) "The multi-vortex wave spin topology and its partial interaction with electromagnetic fields show that the spin-field interaction is not dimensionless..."

As I know, any interaction term in the Hamiltonian should have the dimension of energy.

4) "It is conceivable that the holographic spin interactions could already exist in nature". What is holographic spin interaction?