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 this manuscript the authors presented an alternative interpretation of spin based on the solution of Dirac equation in two dimensions ($P_z = 0$) with a infinte rectangular barrier which seems to be an interesting problem. Before I can reach any conclusion, I would like to ask how do the authors obtain Eq.13. It seems that they have used the periodic boundary condition on μ_A(Eq.9) and then used Eq.7 to obtain μ_B. This is not the right way since for massive Dirac electron these two components are coupled at finite momentum (For example see Bjorken and Drell). One should construct the four compoent plane wave spinor first and then use the boundary condition. At this point one should be careful with the nature of vacuum outside the potential well. If these aspects are taken into account properly, I believe the results of this manuscript might change significantly. If possible I would request the authors to add their derivation of the bound states (if not in the main text then in the supplementary) as well. I can provide a better review of the work once the authors clarify this point.