

Review of: "Quantum mechanics and symplectic topology"

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Potential competing interests: No potential competing interests to declare.

After reviewing the manuscript, I concur with the previous reviewer that the authors' attempt to reinterpret quantum theory is naive and lacks novelty. Furthermore, I would like to highlight several misinterpretations of established concepts.

Firstly, the geometric treatment of the overlap between quantum states presented in Fig. 3 is flawed due to the non-zero probability of finding the system in any phase space point, even for squeezed coherent states. Secondly, the quantum state complex-valuedness results from representation choice, as native phase space representations like the Wigner representation do not involve complex numbers.

Thirdly, the definition of the overlap Ω is ambiguous. In the "State overlap" section, it appears as a complex-valued phase space function, while in Eq. (18) of the "Conservation of probability" section, it appears as an operator. Additionally, Ω in Eq. (7) should be in (tensor) product form rather than direct sum form.

Therefore, I cannot recommend the manuscript for publication. However, I wish to emphasize the potential value of exploring the connection between Gromov's classical finding and quantum mechanics, which could have significant implications for quantum optimal control and quantum chemistry.

I hope this feedback will be beneficial for the author in improving their research.