Review of: "Fidelity of quantum blobs"

Bilal Benzimoun[1]

1 Clark University

Potential competing interests: No potential competing interests to declare.

The concept of quantum blobs is introduced as the smallest units of phase space compatible with the Robertson-Schrödinger indeterminacy relation and invariant under general symplectic transformations. The author discusses the limited distinguishability between quantum states and relates it to the impossibility of squeezing the projected area of a quantum blob below the Gromov width.

Overall, the author provides an overview of the concept of quantum blobs, fidelity as a measure of distinguishability, and the potential role of symplectic topology in understanding quantum mechanics. It presents interesting ideas for further research, particularly in exploring alternative mathematical frameworks for quantum mechanics.

The text acknowledges the absence of a well-defined definition of fidelity in other mathematical representations of quantum mechanics, such as the phase-space formulation or Feynman's path-integral formulation. It highlights the importance of studying whether symplectic topology can provide an alternative framework for understanding quantum mechanics.

In conclusion, I recommend the publication of this paper. I have confidence in the value it would bring to the scientific community and its potential to initiate meaningful discussions and further research in the area.

Thank you for considering my feedback