Qeios

Peer Review

Review of: "Rediscovering Eckart"

Adrian M Escobar Ruiz[1]

1. Physics, Universidad Autónoma Metropolitana, Mexico

This comment makes a valuable contribution to the scholarly record by clarifying priority and standards of attribution. In particular, it identifies a failure to acknowledge prior work by Eckart and later authors on an inequality presented in Ref. [12]. In my view, this is an appropriate subject for a short scientific comment. The manuscript is clearest and strongest when it confines itself to that specific correction.

At present, a few rhetorical formulations could be softened. For example, the sentence beginning with “Surprisingly” would read more objectively if recast in neutral scholarly language, e.g., “Eckart’s original work and much of the subsequent literature do not appear to be cited in Ref. [12].” Likewise, the statement that the finite-Hilbert-space case is “rather unrealistic” and “somewhat trivial” would be better replaced by: “Because this case assumes a finite Hilbert space, its physical relevance may be more limited, and it can be treated more directly elsewhere.” These changes would improve tone without weakening the author’s substantive point.

I also recommend clarifying the scope of the criticism. As written, the note may be read as implying that the broader contribution of Ref. [12] is substantially diminished. However, the argument presented here establishes only that one inequality was anticipated by earlier work. The target paper also discusses the stability of structural simplifications near the boundary of the marginal polytope and derives related variational consequences, which are not directly addressed in the present comment. A brief sentence in the conclusion would resolve this issue. For example: “The present comment concerns the attribution of the specific overlap/energy inequality discussed above, and does not address the separate stability results and variational applications developed in Ref. [12].” Such a sentence would make the manuscript fairer, more precise, and more persuasive.

Recommendation: minor revision.

doi.org/10.32388/JKEIK1

Declarations

Potential competing interests: No potential competing interests to declare.