

Peer Review

Review of: "On a Certain Inequality for the Sum of Norms and Reverse Uncertainty Relations"

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Dear Author,

In this article, the author has established a simple inequality involving the sum of squares of norms of two vectors in an inner product space and its subsequent application to a reverse uncertainty relation. The work is both mathematically elegant and conceptually relevant, especially in the context of functional analysis and quantum information theory, where uncertainty principles play a foundational role.

The logical transition from the core inequality to the derivation of a reverse uncertainty relation is smooth and well-motivated. This adds value by linking pure mathematical results to interpretations with physical or theoretical implications.

Suggestions for Improvement:

Application should be included for the justification of the inequalities. There are several integral transformations available; if it could be implemented on one of them, it may open an area of research.

Typographical Precision: In some places, expressions involving norms and inner products could benefit from clearer typesetting or additional explanation. A brief notation summary or glossary might enhance readability for less experienced readers.

Conclusion:

Overall, your work is a meaningful and original contribution to the study of inequalities in inner product spaces. It successfully bridges abstract mathematical constructs with concepts that may have

interpretative relevance in physics. I encourage you to consider expanding on the context and potential applications in future iterations or related research efforts.

Declarations

Potential competing interests: No potential competing interests to declare.