

Peer Review

Review of: "Multidimensional Soliton Systems: an Update"

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This manuscript serves as a valuable and timely extension to the authors' earlier review on multidimensional soliton systems. The incorporation of recent key advances—particularly in nonlinear optics and quantum droplets in Bose–Einstein condensates—is commendable and enhances the coherence and relevance of the ongoing research narrative. The writing is generally clear and well-structured. The paper can be accepted after minor revision.

Suggested Revisions:

1. On page 4, the equation following the 2D Riesz derivative is unnumbered. Furthermore, the term “U” is missing on the right side of the equation, resulting in a typographical error.
2. Following the sentence “The [analysis? behavior?] of Eqs. (1) and (2) gives rise to collapse (catastrophic self-compression of the wave field, making all solitons unstable) in the case of $\alpha \leq 1$,” a supporting reference should be provided.
3. References are needed for the description of physics-informed neural networks.
4. More references on multidimensional solitons in quantum droplet systems are required.

Declarations

Potential competing interests: No potential competing interests to declare.