Review Form3

Book Name:	Current Research Progress in Physical Science
Manuscript Number:	**Ms_BPR_4094**
Title of the Manuscript:	**Matter Dynamics in a Unitary Relativistic Quantum Theory**
Type of the Article	**Book chapter**

PART 1: Comments

	Reviewer's comment	**Author's Feedback***(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimumof 3-4 sentences may be required for this part.	**This chapter presents a comprehensive approach to blending relativistic principles with quantum wavefunction formalism, an area of growing interest among theoretical physicists. The authors' emphasis on non□dispersing wave packets and the role of spin□2 gravitons contributes valuable insights for unifying quantum field theoretical approaches with General Relativity. By addressing black□hole boundary conditions and gravitational wave interactions at a fundamental level, this work may spark further investigations into novel computational techniques and experimental proposals in advanced gravitational and quantum studies.**	
Is the title of the article suitable? (If not please suggest an alternative title)	**The current title, *"Matter Dynamics in a Unitary Relativistic Quantum Theory,"* is both appropriate and indicative of the main theme. No change is necessary.**	
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	**Overall, the abstract provides a clear snapshot of the key ideas: non□dispersing wave packets, spin□2 gravitons, and the unification of quantum and relativistic principles. One suggestion: briefly include a statement that highlights the physical impliications of the black□hole boundary discussion (like mentioning boundary conditions and evaporation processes) so that readers immediately see its broader relevance.**	
Is the manuscript scientifically, correct? Please write here.	**The manuscript appears scientifically robust and very well thought out. The mathematical framework—using relativistic Lagrangians, Hamiltonians, and covariant derivatives—follows established practices. The assumptions about perpendicular accelerations under external fields, treatment of the Schwarzschild metric, and Fourier expansions for wavefunctions are consistent with known theoretical approaches.** **One minor point that could benefit from clarification is how the authors handle the step from linear gravitational waves to the assertion of no net "curvature energy" at first order; a short explanation referencing standard results from linearized gravity would strengthen the argument.**	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. **:**	**The references include both classical works (e.g., de Broglie, Heisenberg, Dirac) and modern texts that discuss the foundations of quantum mechanics and general relativity. This breadth is helpful. Given the topic's contemporary relevance (quantum gravity, gravitational waves), it might be beneficial to include a few more recent articles (post□2020) if available, especially those discussing observational or numerical aspects of gravitational waves. However, the reference list is already extensive and acceptable as is.**	

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Is the language/English quality of the article suitable for scholarly communications?	Yes, the manuscript's language is overall clear and readable. A few minor grammatical improvements could help; for example, ensuring consistent use of definite articles and more direct phrasing in certain paragraphs. But these issues do not hinder comprehension and are far from providing reason to dismiss any of the paper's findings or theories. A careful proofreading pass would suffice to resolve any lingering typographical or minor style issues.	
Optional/Generalcomments	It would be interesting to see if the authors can suggest any potential observational consequences or experimental scenarios, even if speculative, of their unitary relativistic quantum theory, such as on gravitational wave detection or matter–radiation interactions in high energy astrophysical environments. Figures illustrating the wavefront geometry in curved spacetime or the black hole boundary condition might strengthen the presentation for readers less familiar with the formal mathematics. However, the paper's aim seems to be achieved, and does show great promise to push the field of quantum dynamics and physics in the right direction of stopping to ignore the present problems in Physics in general. **Given the scientifically sound approach, thorough references, and overall clarity, I recommend Minor Revision primarily to address minor language nuances and to add a brief clarifying statement about the linear gravitational wave energy argument. The manuscript is otherwise very strong and appropriate for publication as a book chapter.**	

PART 2:

	Reviewer's comment	**Author's comment***(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

Reviewer Details:

Name:	**Jesse Danniel Brown**
Department, University & Country	**USA**