**Review Form2**

| | |
|---|---|
| Book Name: | Current Research Progress in Physical Science |
| Manuscript Number: | **Ms_BPR_2904** |
| Title of the Manuscript: | **THE RELATIVISTIC DYNAMICS AS A QUANTUM EFFECT** |
| Type of the Article | **Book chapter** |

**PART 1: Review Comments**

| **Compulsory** REVISION 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. Why do you like (or dislike) this manuscript? A minimumof 3-4 sentences may be required for this part.** | This manuscript offers a significant contribution to the field of quantum mechanics by attempting to unify quantum theory with relativistic dynamics. It is particularly important because it addresses an ongoing challenge in physics: reconciling non-relativistic quantum mechanics with the relativistic nature of electromagnetic fields. The development of a Unitary Quantum Relativistic Theory could have far-reaching implications for both theoretical physics and practical applications, such as quantum field theory or advanced particle physics. I appreciate the manuscript for its mathematical rigor and innovative approach, although I believe it could benefit from clearer practical implications and physical interpretations. | |
| **Is the title of the article suitable?**<br>**(If not please suggest an alternative title)** | The current title, "The Relativistic Dynamics as a Quantum Effect", is reasonably suitable but somewhat ambiguous. A more descriptive title could be "A Unitary Approach to Relativistic Dynamics and Quantum Particle Interactions" to better capture the unification of quantum theory and relativistic dynamics presented in the paper. | |
| **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.** | The abstract is fairly comprehensive but lacks a clear statement of potential applications and the broader scientific implications of the work. I recommend adding a sentence about how this theory could impact current research or practical applications. Additionally, a brief mention of how the theory compares with existing frameworks (like Quantum Electrodynamics) would provide better context. | |
| **Are subsections and structure of the manuscript appropriate?** | The manuscript is well-structured with appropriate subsections. The progression from theoretical development to interaction with fields and relativistic transformations follows a logical order, aiding the reader's understanding. However, the conclusion section could be expanded to include a summary of key findings and potential future directions for research. | |
| **Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimumof 3-4 sentences may be required for this part.** | The manuscript is scientifically robust and technically sound. The derivations presented are mathematically rigorous, and the paper stays consistent with established principles of relativity and quantum mechanics. The application of wave-packet formalism to describe relativistic dynamics is well-executed, although the potential limits of the theory under extreme conditions could be explored further. Overall, it presents a cohesive framework that adheres to foundational physics. | |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.**<br>**-** | While the manuscript references foundational works, many of the citations are from classical sources. Recent advancements in quantum field theory and relativistic quantum mechanics are not adequately cited. I recommend including newer references that discuss the current state of research in quantum field theory and relativistic particle interactions. | |

**Review Form2**

| | | |
|---|---|---|
| Minor REVISION comments<br><br>**Is the language/English quality of the article suitable for scholarly communications?** | Language/English Quality: The manuscript's language is generally appropriate for scholarly communication but could benefit from minor improvements in clarity. Some sentences are overly complex and could be simplified for better readability.<br>Mathematical Notations: Clarify certain mathematical steps that might not be immediately obvious to non-specialist readers. | |
| **Optional/General**comments | Including a brief section discussing the potential experimental verifications or implications of this theory would broaden its appeal.<br>Some visualizations or numerical simulations could help illustrate the theoretical concepts more intuitively.<br><br>This manuscript is mathematically sound and provides a valuable theoretical framework. However, with some improvements in clarity, context, and practical relevance, it could have a broader impact on the scientific community.<br>The book chapter demonstrates strong theoretical development but requires improvements in clarity, additional recent references, and better articulation of its physical implications and potential applications. | |

**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: | **David Maldonado** |
| Department, University & Country | **Spain** |