



**SDI Review Form 1.6**

Journal Name:	<a href="#">Advances in Research</a>
Manuscript Number:	<b>Ms_AIR_19816</b>
Title of the Manuscript:	<b>Advances in Modern Physics: Transition from Positivism to Post-positivism in Education and Research</b>
Type of the Article	<b>Opinion Article</b>

**General guideline for Peer Review process:**

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



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**PART 1: Review Comments**

	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)
<b>Compulsory</b> REVISION comments	<p><b>The paper not have any quantitative analysis that supports this opinion.</b></p> <p><b>The paper only shows some aspects of Modern Physics, but not includes the statistical mechanics as experimental methodology in modern physics, since the observations in this acknowledge have enriched of conjectures and propositions the modern physics.</b></p> <p><b>There are some controversies in the experimental part with theoretical. The author must analyse these. And these could to solve it with adequate philosophy. Since the quantum mechanics, for example, is an incomplete science. The QED, is the second quantum mechanics (created by Feynman). Then what follows?</b></p> <p><b>The philosophy of the science is very poor, the authors must to give more argumentation.</b></p>	<p>Thanks for the valuable comments. I indicate my feedback paragraph by paragraph as follows:</p> <p>The paper is not aligned to have any quantitative analysis. In fact, as stated in advance, it is an opinion article. The opinions and ideas invoked in this article come from the general overview of quantum physics, but not any of the specific quantitative results observed.</p> <p>I consequently agree the fact that the statistical mechanics has enriched the methodological aspects of modern physics. However I would like to underline the fact that quantum mechanical approach of modern physics is already a sophisticated statistical method, since the quantum mechanics is based on uncertainties and probabilities. Therefore discussing the aspects of modern physics using the quantum mechanical arguments just as in the case of this study also includes the statistical mechanics. This situation is added and highlighted in the manuscript as</p>



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		<p>follows: Line 84-90 “Deterministic views of classical theory initially started to scrunch with the requirement of statistics in especially thermodynamic phenomenon when the repetition of the same event and the multiplicity of different events are the case. Consequently it is obvious that multiple recurrences of one particular phenomena in many microscopic and macroscopic events may not have ended up with the same results. The first comprehensive theory was initiated with the <i>Maxwell-Boltzmann Statistics</i> (1871), evaluating the possible ensembles of an isolated thermodynamic system with particular values of a continuous energy range.” And line 172-177 “In order to deliver the right, it is consequently acknowledged that the statistical mechanics has enriched the methodological aspects of modern physics. However one would like to underline the fact that quantum mechanical approach of modern physics is already a sophisticated statistical method, since the quantum mechanics is based on uncertainties and probabilities. Therefore discussing the aspects of modern physics using the quantum mechanical arguments in this study also includes the statistical mechanics.”</p>
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		<p>Following the question “There are some controversies in the experimental part with theoretical. The author must analyse these. And these could to solve it with adequate philosophy.</p> <p>Since the quantum mechanics, for example, is an incomplete science. The QED, is the second quantum mechanics (created by Feynman). Then what follows?” I think we argue the same thing with the respected reviewer. So there is no controversy since we also say that science is continuously evolve itself. Deterministic views of positivism break down due to these arguments stated several times in the text. We also added the following statement in order to strengthen the hypothesis. Lines 46-50 “It is right to say that the quantum mechanics is also an incomplete science evolved itself from <i>Schrödinger’s and Dirac’s formalism</i> to the <i>quantum electrodynamics</i> (QED) of Feynman, more general view of quantum mechanics combining <i>quantum field theory</i> (QFT) with the <i>special relativity</i>, and will possibly be evolved to much novel ones and so on.”</p> <p>Concerning the last comment “The philosophy of the science is very poor, the</p>
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		<p><b>authors must to give more argumentation."</b> Although originally I did not want to disperse the readers' attention apart from the focused idea in an opinion article, I tried to extend the philosophy discussion in the lines 235-300 in the manuscript.</p>
<b><u>Minor</u></b> REVISION comments		
<b><u>Optional/General</u></b> comments	<p>YOU MUST TO IMAGE THE IMPORTANCE OF THE QUATUM MECHANICS. THE POS-POSITIVISM NOT HAVE HELPED IN NOTHING. BUT THE NANOTECHNOLOGY YES.</p> <p>WHEN YOU INCLUDE THE SPINTRONICS?</p>	<p>Thanks also for general comments. I imagine if the article is published the importance and the effect of it to post-positivism will be a little more understood. Nanotechnology and spintronics are some outcomes of quantum idea. I am not even claiming the understanding of quantum idea to include the others.</p>