



SDI Review Form 1.6

Journal Name:	Physical Science International Journal
Manuscript Number:	Ms_PSIJ_28572
Title of the Manuscript:	A New Quantum Paradox
Type of the Article	Original research papers

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.

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PART 1: Review Comments

	Reviewer's comment	Author's comment <i>(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)</i>
<u>Compulsory</u> REVISION comments	<p>The paper contains no technical errors in the derivations of equations presented. However, the sentences in the Conclusions on page 7 are problematic. They really imply that the gauge transformation (9) acting on the state of the free electron produces: "... the solution of (12), where the electron is bound to the hydrogen atom".</p> <p>The author did not explain how do we really know that this solution describes the bound electron (as opposed to an asymptotically free state, or a superposition of such states)?</p> <p>It actually seems to me that this solution is not complex square integrable, and therefore, can not describe the bound state of the electron in the Coulomb potential of the hydrogen atom.</p> <p>Also, the author should give at least a hint, where in his opinion, lies the resolution of the apparent paradox which he discusses in his manuscript. It is not enough to say only that "... an application of a specific gauge transformation yields inconsistent results. These results call for a further analysis of the role of gauge transformations in the theoretical structure of electrodynamics".</p> <p>In my opinion, after such amendments, the manuscript can be reconsidered.</p>	<p>The paragraph that begins 5 lines from the bottom of p. 6 has been replaced. The new version explains the Referee's remark.</p> <p>I've also changed the concluding remarks and the new reference ([13]) indicates that in my opinion the problem rests with gauge transformations.</p> <p>I feel that the revised version takes a better form and I thank the referee for his remarks.</p>
<u>Minor</u> REVISION comments		
<u>Optional/General</u> comments		