SDI Review Form 1.6

Journal Name:	**Physical Review & Research International**
Manuscript Number:	**2013_PRRI_6994**
Title of the Manuscript:	**Two-Body Dirac Theory**
Type of the Article	

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)

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)*
Compulsory REVISION comments	1) L233: EOM needs to be defined. 2) L363-365: This statement needs to be referenced. It is a pretty strong statement and it needs to be motivated by citing previous work. 3) L381: (\Psi,\vec{X}) needs to be defined. What is this? The mathematical symbols need to be defined. In equations 3-vectors appear to have an "r" over top of them, in text 3-vectors appear to have a "" over them. Then sometimes there is an arrow over 3-vectors, which is the normal convention. 4) Remove the comma at the end of Eq. (II-1). 5) Throughout the text, shouldn't "h" actually be \hbar? 6) Many references to equation numbers are wrong. For example, L414 (I-4) does not exist. L424 (I-4) does not exist. 7) L432-436: Why is the exchange of a photo incompatible with Lorentz invariance? This sentence is not clear. 8) What does L426-447 have to do with the above calculation? It seems out of place and should not go here. It is largely repeat of the concepts in the introduction. 9) What is the comma between E and H in this equation? This is a non-standard notation that needs to be defined. 10) L473: Please define what j is. In general, all mathematical symbols in these equations should be defined. 11) L493-497: what do you mean the photon 4-momentum has not been proposed? The 4-momentm of a particle describes its energy and momentum. This is not a property of a particle. 12) L507: Equations (I-8) and (I-5) do not exist. 13) L511: Here is the 3rd variation of the 3-vector symbol, this time an inverted carat. 14) L524: Here we have the 4th version of the 3-vector symbol, an arrow. 15) L624: Why is there a hyphen in Zitterbewegung here? 16) L654-658 is an important statement to this paper and you should cite a reference rather than just stating it. 17) L664: What is equation (4), it does not exist.	

	18) "where" should be replace by "which is". 19) L682: "can be written down and solved". Please write it down since you us it. 20) L682-684: What is the difference between fully relativistic and Lorentz invariant? The Dirac equation is invariant under a Lorentz transformation (Lorentz group). It can describe a relativistic particle (non-relativistic too). 21) L692: Equation I-4 does not exist. 22) L696: Define what \kappa and \mu are. 23) L698: G and F are functions of r, since you explicitly write this for most of the occurrences of G and F, please write it for all. 24) Put a comma after equation (III-2). 25) L692-705 is a run-on sentence; please brack it up into more than one sentence. 26) The equations in L701-705 are using the same symbol for the operation and its eigenvalue. Please use a different symbol, and define them in the text. 27) "w" in L713 and elsewhere should be in math font. In general all mathematical symbols in the text should be in the same font they appear as in the equations. 28) L734: You define au but it was already used in the previous sentence. Please define it where it is first used. 29) The figures should be referenced in the order in which they are referenced in the text. L732 mentions figure 4 but we have not encountered figures 2 or 3 yet. 30) L732: How do you know the agreement is 99.6%? Please explain this.	
Minor REVISION comments	1) The title is too general. The paper really presents a solution to the positronium problem using the Hartree-model. In this sense the abstract could also be shorten to just tell what is done in the paper. 2) After reading a lengthy introduction, I have no idea what this paper is going to do. The calculation in the paper has to be motivated by the introduction. In the introduction, clearly state what will be done in the paper and why it is important.	
Optional/General comments	1) A lot of concepts are repeated. For example, the idea in L74-76 is already stated. L365-369 is a repeat of the previous sentence. L377-379 is a repeat of the previous sentence. 2) I'm not sure the old hole-theory is still taken as seriously as the authors lead on. 3) Are figures 2,3,5,6 useful? What do I learn from them? If they are useful please state in the text why. 4) L806-810 seem rather obvious to me already. 5) Ref. [10], why is the DOI give for this reference but non of the others? 6) I would remove Ref. [15]. Anyone able to understand this paper already knows that the dot product of two 4-vectors is a scalar under a "special" Lorentz transformation.	

Note: Anonymous Reviewer