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

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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** *(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	In this work author discusses an important fundamental problem. Results of this work are interesting and deserve peer attention. It can be published with some additional comments. Trembling motion ("Zitterbewegung") is a theoretical rapid motion of elementary particles, in particular electrons, that obey the Dirac equation (E. Schrödinger, 1930). It is a result of analysis of the wave packet solutions of the Dirac equation for relativistic electrons in free space, in which an interference between positive and negative energy states produces what appears to be a fluctuation (at the speed of light) of the position of an electron around the median, with a circular frequency... The "Zitterbewegung" term vanishes on taking expectation values for wave-packets that are made up entirely of positive- (or entirely of negative-) energy waves. This can be achieved by taking a Foldy Wouthuysen transformation. This results in the interpretation of the "Zitterbewegung" as being caused by interference between positive- and negative-energy wave components. Note, that in stochastic electrodynamics, "Zitterbewegung" is explained as an interaction of a classical particle with the zero-point field. A re-examination of Dirac theory, however, shows that interference between positive and negative energy states may not be a necessary criterion for observing "Zitterbewegung". The "Zitterbewegung" need not be attributed to interference between positive and negative energy states as originally proposed by Schroedinger. Rather, it provides a physical interpretation for the complex phase factor in the Dirac wave function generally [David Hestenes, "The zitterbewegung interpretation of quantum mechanics",	

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	Foundations of Physics, 20(10) (1990)]. Such a local circulatory motion of the electron presumed to be the basis of the electron spin and magnetic moment.	
Minor REVISION comments	Zitterbewegung of a free relativistic particle has never been observed, but the behavior of such a particle has been simulated with a trapped ion, by putting it in an environment such that the non-relativistic Schrödinger equation for the ion has the same mathematical form as the Dirac equation (although the physical situation is different). The Hartree model for two-body Dirac theory predicts that a bound state for Ps exists in the negative-energy region of the spectrum. This is quite possible the existence of the negative-energy levels. For example, energy levels of electron in a hydrogen atom are negative, and electron has imaginary eigenmomenta. In view of this article one should mention that the energy, mass, momentum and phase can be complex in particle physics.	
Optional/General comments		

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