



**SDI Review Form 1.6**

Journal Name:	<a href="#">Physical Science International Journal</a>
Manuscript Number:	2014_PSIJ_12576
Title of the Manuscript:	Electron energy levels for a finite elliptical quantum wire in a transverse magnetic field
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.

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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	<ol style="list-style-type: none"> <li>1. The authors need to explain why the Zeeman term is not taken into account in their Hamiltonian given the presence of the magnetic field.</li> <li>2. Eq.2 is not an Eigenvalue problem, therefore inserting eq.9 in eq.2 cannot lead to eq.11 as claimed in line 114.</li> <li>3. Eq.10 needs to be justified more explicitly, given that it does not have the form of the exact solution to the Hamiltonian Eigen value problem within the present setting. In addition, the parameter alpha in eq.10 which apparently should influence the energy levels is neither defined nor the values used for it in the numerical calculations stated.</li> </ol>	<p>1. The paper is based on our earlier investigation. We'll consider the Zeeman Effect on the electron energy levels in our later work.</p> <p>2. We add a Schrodinger equation of the electron, <math>\hat{H}\psi(\xi, \theta) = E\psi(\xi, \theta)</math> (11) in line 119, and inserting eq.9 in eq.2 in line 120 is changed to inserting eq.9 in eq.11. The later formula numbers are changed also. For instance (11) is changed to (12).</p> <p>3. In order to explain the question, "<math>m</math> and <math>n</math> are round numbers. Eq. (10) is a set of orthogonal series as which the wave function is developed. We use a diagonalization method to calculate the electron energies and wave function." is added in line 115.</p>



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<p><b><u>Minor</u></b> REVISION comments</p>	<ol style="list-style-type: none"> <li>1. The manuscript needs revision by a native speaker of English due to many grammatical errors. For instance lines 11 and 12 should read: ... decreases ... increases. Instead of ... decreased ... increasing.</li> <li>2. A cross-section of the results reported here have been reported in the conference proceeding:  Duan Xiu-Zhi; Wang Guang-Xin; Liu De; Gou Bing-Ping, "Electronic Structure of InAs/InP Elliptical Quantum Wires," <i>Photonics and Optoelectronics (SOPO)</i>, 2011 Symposium on , vol., no., pp.1,3, 16-18 May 2011 doi: 10.1109/SOPO.2011.5780629</li> </ol> <p>It would be appropriate to discuss the present results in comparison with the above work.</p>	<ol style="list-style-type: none"> <li>1. In line 11 "has decreased" is changed to "decreases" and "increasing" in line 12 is changed to increases.</li> <li>2. "The electron ground state energy is similar to the case that the magnetic field parallel to the wire axis<sup>22</sup> when the value of the magnetic field equal to 0.5T. It is probably that the difference of the two cases that in the presence of the magnetic field along x-axis and z-axis is obviously when the value of the magnetic field become larger." is added in line 196 in order to explain the difference of the magnetic field along x-axis and z-axis.</li> <li>3. "The ground state energy is compared with the previous work." is added in line 14.</li> <li>4. "The ground state energy has been compared with that when the magnetic field applied along z-axis." is added in line 223.</li> <li>5. "The electron ground state energy is similar to the case that the magnetic field parallel to the wire axis when the value of the magnetic field is small." is added in line 235.</li> </ol>
<p><b><u>Optional/General</u></b> comments</p>		