

Review Form 3

Journal Name:	Asian Journal of Research and Reviews in Physics
Manuscript Number:	Ms_AJR2P_125057
Title of the Manuscript:	DESIGN OF DIGITAL LUX METER BASED ON ARDUINO USING EL7900 PHOTODIODE SENSOR
Type of the Article	

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PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback (Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.	<p>The manuscript is original, and the results look satisfactory.</p> <p>The research focuses on designing electronic components to create a digital lux meter using an Arduino Uno processor and a microcontroller as a data processor. The HC-SR04 sensor measures distance from the light source, and the detection results are processed in the microcontroller and displayed on an OLED. The study found that the illumination intensity decreases as the distance from the light source increases. The calibration testing between the design tool and reference tool showed a 0.06% error rate, and field test results showed an accuracy of 99.48% at 150 cm from the light source with different light source power.</p>	
Is the title of the article suitable? (If not please suggest an alternative title)	Yes, the title of the article suits me.	
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	<p>The abstract is too short. It needs to be extended with more details. The reviewer recommends authors use and cite these recent articles in the introduction section to add relevant information on the characteristics of battery and Arduino software:</p> <p>[1] Manfo, T. A. and Sahin, M. E. "Development of an Automatic Photovoltaic Cell Battery Powered Water Irrigation System Incorporated with Arduino Software for Agricultural Activities. Gazi Journal of Engineering Sciences, 10(2): 314-328, 2024. doi:10.30855/gmbd.0705A07.</p> <p>[2] Theodore, A.M. and Şahin, M.E. Modeling and simulation of a series and parallel battery pack model in MATLAB/Simulink. Turk J Electr Power Energy Syst, 4(1), 2-12, 20. DOI: 10.5152/tepes.2024.23024</p> <p>[3] Badi, N., Theodore, A.M., Alghamdi, S.A., Alatawi, A.S., Almasoudi, A. and Lakhout, A., 2022. Thermal effect on curved photovoltaic panels: Model validation and application in the Tabuk region. PLoS ONE, 17(11), p.e0275467.</p>	
Are subsections and structure of the manuscript appropriate?	<p>Yes, it is.</p> <p>The authors should define the concept of energy add more references related to the topic of Arduinio, Battery, and sensors. They are encouraged to use the above articles</p>	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.	The manuscript is well presented but shows many typo errors that have been corrected in red. The authors should provide I-V characteristics for the system at different distances. To correlate more, the authors are also requested to run the experiment in darkness and lights and compare experimental data to emphasize their influence on illumination intensity and power generated as per distance.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. :	<p>No. The authors should discuss generally the components such as the battery, energy concept, Arduino software and sensors, and more specifically in the introduction. The reference section is limited. The reviewer recommends author use and cite these recent research articles in the introduction section to improve the manuscript's quality.</p> <p>1. Manfo, T. A. and Sahin, M. E. (2024) "Development of an Automatic Photovoltaic Cell Battery Powered Water Irrigation System Incorporated with Arduino Software for Agricultural Activities. Gazi Journal of Engineering Sciences, 10(2): 314-328. https://doi:10.30855/gmbd.0705A07.</p> <p>[2] Theodore, A.M. and Şahin, M.E. (2024). Modeling and simulation of a series and parallel</p>	

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	<p>battery pack model in MATLAB/Simulink. Turk J Electr Power Energy Syst, 4, 2-12, 20. https://doi:10.5152/tepes.2024.23024</p> <p>[3] Badi, N., Theodore, A.M., Alghamdi, S.A., Alatawi, A.S., Almasoudi, A. and Lakhout, A.(2022). Thermal effect on curved photovoltaic panels: Model validation and application in the Tabuk region. <i>PLoS ONE</i>, 17, p.e0275467. https://doi:10.1371/journal.pone.0275467</p> <p>[4]Manfo, T.A. and Şahin, M.E. (2023). Intercalation reaction in lithium-ion battery: effect on cell characteristics. <i>The International Journal of Materials and Engineering Technology</i>, 6, pp.70-78.</p> <p>[5]Theodore, A.M., Abbas, A.A. and Dhapola, P.S. (2023). Effect of Layered, Spinel, and Olivine-Based Positive Electrode Materials on Rechargeable Lithium-Ion Batteries: A Review. <i>JCMPS</i>, 6, pp.38-57.</p> <p>[6] Theodore, A.M., 2023. Promising Cathode Materials for Rechargeable Lithium-Ion Batteries: A Review.(2023). <i>J. Sustain. Energy</i>, 14, pp.51-58.</p> <p>[7]Theodore, A.M. (2023). Progress into lithium-ion battery research. <i>Journal of Chemical Research</i>, 47, p.17475198231183349. https://doi:10.1177/17475198231183349</p>	
Minor REVISION comments		
Is the language/English quality of the article suitable for scholarly communications?	Yes the language is acceptable but needs some corrections as shown in red	
Optional/General comments	The manuscript is good but lacks general information in the introduction about Energy, battery, sensors, and Arduino software in the introduction to be easily understood by non-scientists	

PART 2:

	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)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

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