

Review of: "Modified free energy generation using permanent Neodymium Magnet based on Bedini with Maxwell and Lorenz gauge conditions"

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Potential competing interests: No potential competing interests to declare.

Notes about the manuscript

Title: "Modified free energy generation using permanent Neodymium Magnet based on Bedini with Maxwell and Lorenz gauge conditions"

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The authors propose an electricity generator claiming that it is efficient and reliable operating in real time considering constraints concern to the electricity generation cost, resource reservoirs, greenhouse gas emission, energy storage, and power demand for a predefined residential area. Their design is mainly focused in the rotor, coupled with movable neodymium magnets to increase the life of the harvester and the revenue of the systems.

The authors claim that their contribution is as follows:

- The designed rotor uses best quality neodymium magnets and it runs in an autonomous mode without any fuel consumption.
- Construction of stator included bifilar coils (BC) as the interaction of permanent magnets, and BC to capture radiant energy.
- The assembly of proposed system allows adjusting the gaps between magnets and coils.
- They calculate the coefficient of efficiency of the selected batteries in order to compare the performance of the Bedini generator and the MFEG.

The paper includes the following sections:

Abstract

Index terms

I. Introduction

A. Literature review

B. Contribution

II. Mathematical model

A. Maxwell equation

B. Lorenz gauge transformation

III. Design and operation

A. Rotor

B. Stator

C. SSG circuit

IV. Working principle

V. Performance comparison

VI. Conclusión

References

Comments:

This paper seems very interesting, but there are many aspects that need to be improved and clarified.

1. It is recommended that the authors proofread the writing and spelling of the whole document. The English text should be carefully checked. Several typographical and spelling errors have been found.

2. The structure of the manuscript should be improved to include the design requirements of the complete system and each of its components. The reasons why a specific design is proposed for the rotor, but a design from other authors is used for the stator, should also be stated. The authors do not provide the rationale for their design choices.

3. The authors are encouraged to review their bibliographic citations. In all paragraphs of the text where they include a citation, they should always include information about the authors of the cited work and the year of publication. Sometimes they include this information, but in other cases they include only a reference number, which makes for confusing reading.

4. The authors are encouraged to include recent bibliographic references to strengthen Section I.A (Literature Review).

5. The authors do not demonstrate that the proposed system design takes into account constraints concerning electricity generation cost, resource reservoirs, greenhouse gas emissions, energy storage, and power demand for a predefined residential area.

6. In Section II, the authors state that the proposed system design takes into account that the rotor, stator, and Bedini SSG are crucial parts. But in the abstract, they state that the design is mainly focused on the rotor. They should unify these sentences.

7. The authors should discuss and summarize what other magnetic materials they could have taken into account in the design of the system. They do not provide information on the advantages of NdFeB over other materials.

8. The authors do not explain how Maxwell's equations are applied in the system design. They only present and list the equations, but do not use them in any calculations. The same is true for the Lorenz gauge transformation. See Sections II.A and II.B.

9. Section III lacks formality and is the most important section of the manuscript. It only presents some figures that suggest the proposed design, but there are no requirements for system design and operation. There is also no serious information to indicate that the system design was done with formality and rigor.

10. This manuscript is a very simple technical report and lacks formality and quality for publishing in Qeios.

11. The performance comparison does not include sufficient information to determine the quality of the proposed system.

To the Editorial Team

The topic of this manuscript is very interesting. However, the manuscript lacks the quality to be published in Qeios. The original claims are not supported by the information described by the authors in the manuscript.

The manuscript must be rejected.