

[Review Form 2](#)

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|--------------------------|---|
| Book Name:               | <a href="#">Mathematics and Computer Science: Contemporary Developments</a> |
| Manuscript Number:       | Ms_BPR_3835   |
| Title of the Manuscript: | <b>Optimal Control and Bifurcation Issues for Lorenz-Rössler Model</b>      |
| Type of the Article      | <b>Book chapter</b>   |

**PART 1: Review Comments**

| <b>Compulsory</b> REVISION comments  | <b>Reviewer's comment</b>  | <b>Author's Feedback</b> <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i> |
|--|--|--|
| <b>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.</b>                        | The manuscript explores an interesting combination of bifurcation and optimal control in the Lorenz-Rössler model, which has significant theoretical and practical implications. However, while the study provides a detailed mathematical foundation, its real-world applicability and impact could be more clearly demonstrated.   |  |
| <b>Is the title of the article suitable? (If not please suggest an alternative title)</b>  | The title, " <i>Optimal Control and Bifurcation Issues for Lorenz-Rössler Model</i> ," is clear and reflects the study's core focus. No alternative title is necessary.  |  |
| <b>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.</b>   | The abstract is informative but overly focused on technical details. Adding a sentence about the broader relevance of the study to fields like engineering, cryptography, or forecasting would help engage a wider audience.   |  |
| <b>Are subsections and structure of the manuscript appropriate?</b>  | The structure is appropriate; however, the transition between sections could be improved. For example: <ul style="list-style-type: none"> <li><b>Section 4 (Bifurcation Analysis):</b> It would be beneficial to include a brief summary linking the bifurcation results to the control problem in Section 5.</li> </ul>   |  |
| <b>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.</b> | The manuscript is scientifically rigorous, but there are areas where more clarity or additional explanation would improve accessibility: <ul style="list-style-type: none"> <li><b>Bifurcation Analysis:</b> While the mathematical derivations are correct, the implications of these results are not fully explored. For example, what do these bifurcations imply for system stability in practical applications?</li> <li><b>Control:</b> In Section 5, the manuscript specifies the choice of <math>\gamma=-1</math> for minimization purposes. Could the authors provide further clarification or justification for this selection?</li> </ul> |  |
| <b>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</b><br>=  | While the manuscript cites several foundational works, such as Lorenz and Rössler's original studies, many references are over a decade old. For example, critical references like [5], [7], [10], and [11] date back to the 1960s and 1990s. Recent developments in chaos theory, optimal control, and bifurcation analysis are not adequately represented. To strengthen the manuscript, the authors should include more up-to-date references from the past 5–10 years.   |  |

**Review Form 2**

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| Minor REVISION comments<br><br><b>Is the language/English quality of the article suitable for scholarly communications?</b> | The language is scholarly but sometimes too dense for broader comprehension. Simplifying complex sentences and avoiding repetition would improve readability. |  |
| <b><u>Optional/General</u></b> comments   |   |  |

**PART 2:**

|  |   |   |
|--|---|---|
|  | <b><u>Reviewer's comment</u></b>  | <b><u>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)</u></b> |
| <b><u>Are there ethical issues in this manuscript?</u></b> | <b><u>(If yes, Kindly please write down the ethical issues here in details)</u></b> |   |

**Reviewer Details:**

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|---|--|
| <b>Name:</b>                                | <b>Benkouider Khaled</b>                 |
| <b>Department, University &amp; Country</b> | <b>Badji Mokhtar University, Algeria</b> |