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| Journal Name: | Asian Journal of Pure and Applied Mathematics |
| Manuscript Number: | Ms_AJPAM_1650 |
| Title of the Manuscript: | A SYMBOLIC SOLUTION APPROACH FOR CHAOTIC INDUCED PROBLEMS |
| Type of the Article | |

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| <u>Compulsory</u> REVISION comments | Reviewer's comment | Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i> |
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| 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. | This manuscript addresses the significant challenge of solving chaotic systems induced by bifurcations in non-linear systems. The introduction of a symbolic solution approach that incorporates feedback control, discretization, and linearization provides a novel method for analysing and stabilizing such systems. This work is particularly important as it extends chaos theory's applications, which are relevant in diverse fields such as finance, engineering, and physics. However, while the theoretical framework is robust, further empirical validation could enhance its impact on the scientific community. | All Corrections are done |
| Is the title of the article suitable? (If not please suggest an alternative title) | The current title, "A SYMBOLIC SOLUTION APPROACH FOR CHAOTIC INDUCED PROBLEMS," is somewhat broad. A more specific title that reflects the content might be: "A Symbolic Solution and Feedback Control Approach for Stability in Chaotic Nonlinear Systems." | |
| 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. | The abstract provides a good overview of the manuscript's main objectives and methodology. However, it could benefit from more explicit mention of the key findings and potential applications of the proposed approach. Additionally, the term "ergodic properties" could be clarified or omitted if not essential to the abstract's main focus. | |
| Are subsections and structure of the manuscript appropriate? | The manuscript is generally well-structured, with a logical progression from introduction to methodology and results. However, some subsections, particularly in the methodology section, could be further detailed to improve clarity. For instance, the section on "Feedback linearization and Local Stability" could benefit from more explanation on the specific assumptions and limitations of the proposed method. | |
| 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 appears scientifically robust and technically sound. The symbolic approach, coupled with feedback control, is well-supported by theoretical foundations, and the use of Picard's iterations and Chebyshev polynomials is appropriate for addressing the chaotic dynamics. The mathematical derivations are thorough, and the stability analysis is consistent with established methods in chaos theory. However, the manuscript would benefit from more detailed examples or simulations to demonstrate the practical applicability of the theoretical results. | All Corrections are done |
| Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. | The references are extensive and include both classic and recent works relevant to chaos theory and nonlinear dynamics. However, there could be a few more references to recent studies that have applied similar methodologies in real-world systems, which would provide a broader context for the manuscript's contributions. | |
| <u>Minor</u> REVISION comments Is the language/English quality of the article suitable for scholarly communications? | The language is generally clear, but some sentences are complex and could be simplified for better readability. For example, the introduction of technical terms could be accompanied by brief explanations. | |
| <u>Optional/General</u> comments | Including a more detailed discussion on potential applications and limitations of the proposed approach could enhance the manuscript's appeal and utility to a broader audience. | |

PART 2:

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