|  |
| --- |
|  |
| Book Name: | **Design and simulation of GHz antennas** |
| Manuscript Number: | **Ms\_BPR\_3848.1** |
| Title of the Manuscript:  | **Symmetric and Asymmetric analysis of Graphene based antenna using kinetic theory of plasma** |
| Type of the Article | **Book chapter** |

|  |
| --- |
| 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.** | This manuscript is important for the scientific community as it delivers the innovative use of graphene-based antennas, leveraging the kinetic theory of plasma for symmetric and asymmetric structural analysis. By using terahertz-range applications, it contributes to advancing the understanding of graphene's tunable properties and its impact on quantum transport phenomena. The integration of theoretical modeling with practical iplementation in areas like quantum mechanics, and electromagnetic devices makes this research highly relevant for emerging technologies. |  |
| **Is the title of the article suitable?****(If not please suggest an alternative title)** | Yes, Title of the article is suitable. |  |
| 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 is comprehensive and covers key aspects of the research. However, the following Suggestions for Improvement:* + Simplify complex sentences to enhance readability. For instance, breaking down concepts like "SPP waves are generated due to third-order nonlinearity" into smaller.
	+ Highlight the practical implications more succinctly and focus on what differentiates this study from prior work.
	+ Specify any experimental validation or simulations conducted.
 |  |
| **Are subsections and structure of the manuscript appropriate?** | Yes. Subsections and structure of the manuscript are appropriate. |  |
| **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.** | This manuscript is demonstrating the scientific robustness and technical soundness by integrating advanced theoretical models, such as the Vlasov equation within kinetic plasma theory which is used to analyze graphene-based plasmonic nanoantennas in the terahertz range. The symmetric and asymmetric structures are used to explore the tunability and quantum transport properties of graphene highlights the novelty and depth of the study. By addressing phenomena like symmetry breaking, Fermi level perturbations, and the resulting electron-hole transport, the manuscript provides a clear connection between theoretical principles and practical applications. The study's focus on graphene’s low power dissipation and sensitivity enhances its relevance to current and future applications. |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.****-** | References are sufficient and recent. But the references are different format. |  |
| Minor REVISION commentsIs the language/English quality of the article suitable for scholarly communications? | Yes. English quality Good. |  |
| Optional/General comments | NIL |  |

|  |
| --- |
| **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?**  | ***(If yes, Kindly please write down the ethical issues here in details)*** |  |

|  |
| --- |
| **Reviewer Details:** |
| Name: | **R Eswaramoorthi** |
| Department, University & Country | **K S R College of Engineering, India** |