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| Book Name: | [**New Horizons of Science, Technology and Culture**](https://bookstore.bookpi.org/product/new-horizons-of-science-technology-and-culture-vol-1/) |
| Manuscript Number: | **Ms\_BPR\_6070** |
| Title of the Manuscript: | **Microwave Absorption and Shielding Mechanisms in Micro-cellular Foamed Conductive Composites** |
| Type of the Article | **Book Chapter** |

**Special note:**

**A research paper already published in a journal can be published as a Book Chapter in an expanded form with proper copyright approval.**

**Source Article:**

**This chapter is an extended version of the article published by the same author(s) in the following journal.**

**Micro, 1(1), 86-101, 2021.**

**Available:** [**https://doi.org/10.3390/micro1010007**](https://doi.org/10.3390/micro1010007)

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| PART 1: Comments | | |
|  | Reviewer’s comment **Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.** | 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. A minimum of 3-4 sentences may be required for this part.** | **The mechanisms of microwave absorption and shielding in microcellular foamed conductive composites are thoroughly examined in this manuscript. This is an important topic for EMI protection in the telecommunications, automotive, and aerospace industries. Supported by a solid 1D model that has been experimentally validated, the study refutes claims made in the literature regarding multiple reflections as the main absorption mechanism and instead emphasizes the role of air in enhancing absorption. For material scientists and engineers developing effective, lightweight EMI shielding solutions, the parametric analysis and design guidelines provide useful insights.** |  |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | **The title appropriately sums up the manuscript's content. No other title is recommended.** |  |
| 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 study's goals, methodology, main conclusions, and implications are all covered in the well-organized abstract. To increase its impact, it could, however, briefly discuss the findings' real-world applications (such as lightweight shielding for IoT devices).** |  |
| **Is the manuscript scientifically, correct? Please write here.** | **The work has a clear methodology, a validated model, and logical conclusions, making it scientifically sound. The technical soundness is reinforced by the experimental validation and parametric study.** |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.**  **-** | **There are enough references, including current research (e.g., 2019–2020). However, the study could be further contextualized by including a few more recent works (e.g., 2022–2023) on multi-scale modeling or advanced foam composites.** |  |
| Is the language/English quality of the article suitable for scholarly communications? | With a few minor grammatical errors (for example, "et and" in Section 3.1 should be "and"), the language is appropriate for scholarly communication. It is advised to proofread thoroughly. |  |
| Optional/General comments | 1. **Figures:** Verify that every figure (such as Figure 3) has a clear label and a caption that describes it. Real descriptions should be used in place of the current placeholder text that reads, “AI-generated content may be incorrect.” 2. **Clarity:** To help non-specialists understand certain equations (like (20)), a brief explanation sentence would be helpful. |  |

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| **PART 2:** | | |
|  | Reviewer’s comment | Author’s comment *(if agreed with the 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?** |  |  |

**Reviewer details:**

**Aloke Verma, Kalinga University , India**