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| Book Name: | **Plasmas Afterglows with N2 for Surface Treatments synthesis 2024** |
| Manuscript Number: | **Ms\_BPR\_3686.25** |
| Title of the Manuscript:  | **Treatment of Textiles in Plasma Afterglow** |
| Type of the Article | **Book chapter** |

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| 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.** |  |  |
| **Is the title of the article suitable?****(If not please suggest an alternative title)** |  |  |
| 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. |  |  |
| **Are subsections and structure of the manuscript 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.** |  |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.****-** |  |  |
| Minor REVISION commentsIs the language/English quality of the article suitable for scholarly communications? |  |  |
| Optional/General comments | **Treatment of textiles in plasma afterglow** The manuscript provides a comprehensive overview of the application of plasma afterglow techniques for textile modification. The authors have successfully demonstrated the potential of this technology for various applications, including sterilization, hydrophilization, and shrink resistance.1. While the manuscript provides experimental results, a deeper dive into the underlying mechanisms of the plasma-surface interactions would be beneficial. For example, a more detailed discussion of the chemical reactions involved in the hydrophilization and shrink-resistance processes could be included.
2. It would be helpful to discuss the potential limitations of plasma afterglow treatments, such as the energy consumption and the impact on the mechanical properties of the textiles.
3. A brief comparison of plasma afterglow techniques with other conventional textile finishing methods (e.g., chemical treatments) would provide valuable insights into the advantages and disadvantages of the plasma approach.
4. A discussion of the future potential of plasma afterglow technology in the textile industry could be added. For instance, the authors could explore emerging applications such as antimicrobial textiles, smart textiles, and functional textiles.
5. **Section 27.2:** The discussion of the FTIR analysis could be expanded to provide more detailed insights into the chemical modifications induced by the plasma treatment.
6. **Section 27.3:** The mechanism of hydrophilization could be explored in more detail, including the role of surface functionalization and the removal of hydrophobic coatings.
7. **Section 27.4:** A more detailed explanation of the thermochromic mechanism could be provided. Additionally, the impact of the plasma treatment on the color stability and durability of the indicator could be discussed.
8. **Section 27.5:** The comparison of plasma and afterglow treatments could be further elaborated to highlight the unique advantages of each approach.
9. **Add the following citation to improve the content.**

[Hydrophilization of polyester textiles by nonthermal plasma](https://scholar.google.co.uk/citations?view_op=view_citation&hl=en&user=ngC5r1wAAAAJ&citation_for_view=ngC5r1wAAAAJ:7PzlFSSx8tAC). M Azeem, A Javed, H Morikawa, MT Noman, MQ Khan, M Shahid, Autex Research Journal 21 (2), 142-149 |  |

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| **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)* |  |

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| **Reviewer Details:** |
| Name: | **Musaddaq Azeem** |
| Department, University & Country | **Technical University of Liberec,** **Czech Republic** |