

Thank you for your thorough and insightful feedback on our paper. We appreciate the time and effort you have dedicated to providing detailed comments and suggestions for improvement. We are pleased to hear that you found our paper to be interesting and well-written. Regarding your question about the choice of journal, we understand your concern about whether *Aerosol Research* is the most suitable journal for our paper, given its focus on the generation of aerosols rather than the materials science aspect of our study. We chose *Aerosol Research* because we believe that our work contributes to the understanding of aerosol generation process, specifically in the context of thin film formation using electrospray technique. The journal of *Aerosol Research* also provides a unique platform to reach a diverse audience of researchers. We acknowledge your concerns, your expertise and familiarity with previous literature in the field will undoubtedly help us improve the quality and impact of our research. We are committed to addressing the observations you have raised and incorporating any necessary revisions to strengthen our paper as indicated below.

1. We acknowledge your concerns regarding the novelty and significance of our work compared to existing literature. We agree that our work presents incremental progress and it may not be groundbreaking in terms of electrospray methodological innovation. However, we acknowledge that our work provides a systematic way of optimizing different parameters to achieve the desired surface morphologies in the design of thin films. Though important in the design of thin films, a systematic way of depositing thin films with desired surface morphologies for optimal operation has not been provided by earlier studies.
2. In the citation of previous contributions, we apologize for the oversight in not adequately acknowledging previous contributions. We will ensure that proper credit is given to relevant works, particularly those by Ganan-Calvo and others, as per your suggestions.
3. In lines 165-170, we appreciate your input regarding the critical parameters influencing droplet spreading on the substrate. We will revise the relevant section to provide a more comprehensive discussion, taking into account factors such as droplet charge and conductivity.
4. In lines 211-212, we acknowledge the complexity of describing the conductivity range of a liquid and its impact on droplet diameter, especially in the presence of extreme electric fields. We will revise the statement to provide a better understanding on this aspect.
5. Thank you for bringing attention to the work of Lopez-Herrera et al. and the importance of electrokinetics in Taylor cone jets, particularly when dealing with complex solutions. We will incorporate references to relevant literature and discuss the implications of electrokinetics.
6. In line 224, we acknowledge the need for quantifying intermediate droplet sizes and their relationships with other parameters. The statement is made in reference to a study by Hong et al. (2017) who reported that small droplets have a high rate of solvent evaporation leading to a

particulate rough film while big droplets have a low rate leading to an uneven film with pinholes. In order to obtain a uniform dense film, they recommended an intermediate droplet size. From their study, the intermediate droplet size was 4.5  $\mu\text{m}$  and it was achieved by electrospraying 30 % wt MAPbI<sub>3</sub> perovskite liquid precursor in DMSO at a flow rate of 0.05 mL h<sup>-1</sup> and a substrate temperature of 65 °C for 2 min.

7. We appreciate your recognition of the importance of disclosing all relevant physical properties of liquid solutions in published works. We agree that this should be accompanied by a clear and practical demonstration of the importance of these properties in relation to the properties of the formed layers in quantifiable terms. This has been clearly highlighted in section 2 (Design schedule) whereby the terms 'long', 'short', 'high' and 'low' have been defined. We will consider highlighting the same as a note under Table. 1 to enhance clarity and comprehensive understanding.
8. In lines 305 – 310, we acknowledge the significance of considering applied polarity in electrospraying complex liquids. We will reference the work of Lopez-Herrera et al. and mention the implications of applied polarity in relation to our study.

In conclusion, we are grateful for your constructive feedback and assure you that we will carefully address each of your points in the revised manuscript. We believe that incorporating these suggestions will significantly enhance the quality and impact of our paper.