

Review Form2

Book Name:	Science and Technology - Recent Updates and Future Prospects
Manuscript Number:	Ms_BPR_1890
Title of the Manuscript:	Fractal Patterns in Polymer Electrolyte Films: Computer Simulation through the Use of Fractal Growth Parameters
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 few sentences regarding the importance this manuscript for scientific community. Why do you like (or dislike) this manuscript? Minimum 3-4 sentences may be required for this part.	The integration of Diffusion-Limited Aggregation (DLA) with Brownian motion theory to simulate fractal patterns in polymer electrolyte films is a novel and insightful approach. The use of Matlab for conducting detailed simulations with varying parameters (sticking coefficients, number of particles, and lattice sites) is commendable and adds depth to the study.	
Is the title of the article suitable? (If not please suggest an alternative title)	ok	
Is the abstract of the article comprehensive? Do you suggest addition (or deletion) of some points in this section? Please write your suggestions here.	NO	
Are subsections and structure of the manuscript appropriate?	OK	
Please write few sentences regarding the scientific correctness of this manuscript. Why do think that this manuscript is scientifically robust and technically sound?Minimum 3-4 sentences may be required for this part.	- The paper could benefit from a more detailed discussion on the sensitivity of the fractal dimension to variations in the simulation parameters, particularly how different values impact the accuracy and reliability of the results. - There is limited explanation on the choice of specific parameter values (e.g., sticking coefficients, lattice sites). More justification for these choices and their impact on simulation results would strengthen the study. - The manuscript could improve by including more robust statistical analysis or error estimation techniques to quantify the uncertainty and reliability of the fractal dimension measurements. - The experimental setup and conditions (e.g., drying time, environmental factors) are briefly mentioned but not discussed in detail. More information on how these factors might influence the fractal formation could be useful. - The limitations of the DLA model in replicating real-world fractal growth in polymer films are not discussed. Addressing potential discrepancies between the model and actual growth phenomena could provide a more balanced view. - There are few queries; Queries 1. How does varying the sticking coefficient and lattice site number specifically affect the fractal	

Review Form2

	dimension and overall pattern of the simulation results? 2. Can you elaborate on how the Brownian motion theory interacts with the DLA model in the context of polymer electrolyte films? Are there any specific findings that highlight this interaction? 3. How do you ensure that the experimental conditions for fractal growth are reproducible and consistent across different trials? Are there any known sources of variability? 4. What criteria were used to compare the experimental and simulated fractal dimensions? 5. Are there plans to extend this study to other types of polymer electrolytes or different fractal growth models? If so, what would be the primary objectives and expected outcomes?	
Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.	New reference should be added	
Minor REVISION comments		
Is language/English quality of the article suitable for scholarly communications?	To be edited	
Optional/General comments	The methodology for determining fractal dimensions using the box-counting method is well-explained and appropriate for analyzing both experimental and simulated fractal patterns. The comparison between experimental fractal patterns and simulated patterns provides strong validation of the simulation results, enhancing the study's credibility. The inclusion of images and simulations clearly illustrates the fractal patterns and their growth, making the findings more accessible.	

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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