



SDI Review Form 1.6

Journal Name:	Journal of Advances in Mathematics and Computer Science
Manuscript Number:	Ms_JAMCS_52742
Title of the Manuscript:	On the interplay of geometrical shapes and the analysis of a dispersal model for pattern formations
Type of the Article	

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	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)
Compulsory REVISION comments	<p>In this manuscript, the authors established a Turing-type mathematical model to simulate the patterns mimicking the natural ones, and patterns generated at different parameter values were presented and discussed, especially including the impact of geometrical shapes on pattern formation that has some novelty in the study of Turing-type modelling for pattern formation. However, there are some issues should be addressed as below:</p> <ol style="list-style-type: none"> 1. Why did the authors choose the Schnackenburg model as the representative Turing-type model? Could the authors describe the advantage or of this model? 2. why did the no flux boundary conditions used? not the periodic boundary conditions? (Section 2) 3. In Section 2, when $u^*=a+b$, $v^*=b/(a+b)^2$, the $f(u,v) \neq 0$ if directly according to Eq. (1.4). 4. In Section 3, why did the authors chose the parametric values as $a = -0.55$; $b = 1.9$; $d1 = 4.8$? What is the physical implications for parameters? 5. In Section 4, the boundary conditions for the spherical computing domain may need to be described. Does the domain size indicate the surface area of the sphere? The numbers in Figure 9 seems ambiguous and need to be presented clearly. 6. How to solve the partial differential equations on a spherical domain by using finite difference method? The algorithm should be described. Did a two dimensional domain with curved boundary solved first and then the results on this 2D domain was folded up to a sphere? More detailed information for the computational framework should be provided to attract wide attentions from readers. 7. Some sentences were the same as those from the below publication: James D. Murray, How the Leopard Gets its Spots. Scientific American, 1988. 258(3): p. 62-69. For example, the below sentences : "In 1952, in one of the most important papers in theoretical biology, Turing postulated a chemical mechanism for generating coat patterns. He suggested that biological form follows a prepattern in the concentration of chemicals he called morpho-gens. The existence of morphogens is still largely speculative," These sentences usually can not be directly replicated according to ordinary writing rules. So major revision for rewriting the description is also needed. 	
Minor REVISION comments	<ol style="list-style-type: none"> 1. Some typo errors should be revised, for examples, "People's are always be fascinated..." should be revised as "People are always be fascinated..." Page1 2. The characters and numbers in Figure 9 seems ambiguous and need to be presented clearly. The figures may need to be enlarged. 	
Optional/General comments		



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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?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

Reviewer Details:

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