

Review Form 1.7

Journal Name:	Journal of Advances in Mathematics and Computer Science
Manuscript Number:	Ms_JAMCS_116083
Title of the Manuscript:	Analysis of Turing instability of the Fitzhugh-Nagumo model in complex networks
Type of the Article	Original research article

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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)
<p>Compulsory REVISION comments</p> <p>1. Is the manuscript important for scientific community? (Please write few sentences on this manuscript)</p> <p>2. Is the title of the article suitable? (If not please suggest an alternative title)</p> <p>3. Is the abstract of the article comprehensive?</p> <p>4. Are subsections and structure of the manuscript appropriate?</p> <p>5. Do you think the manuscript is scientifically correct?</p> <p>6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</p> <p>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</p>	<p>1. This manuscript important for scientific community because</p> <ul style="list-style-type: none">The paper examines pattern formation in networks of neurons, focusing on Turing instability.It identifies the critical diffusion coefficient in the FHN model that triggers Turing instability.Diagrams are used to visualize the patterns known as Turing patterns.The research shows that networks with higher-order connections display more intricate patterns compared to random networks.Overall, this study enhances our understanding of pattern formation in neural networks, which has implications for fields such as biology and neuroscience.Quantitative analysis with the state of the art is suggested <p>2. The title can be improved by providing more specific information like mentioning name of complex networks viz. diffusion and higher order network</p> <p>3. Yes</p> <p>4. Section 2 and 3 can be merged in one section with subsections: Dynamic analysis with FHN model without diffusive network and Dynamic analysis with FHN model in diffusive network</p> <p>5. Yes</p> <p>6. Yes</p>	<p>Response to question 1 : Thanks for your suggestion, I have quantified the relevant data of the network in the revised manuscript, and the newly added content has been highlighted.</p> <p>Response to question 2 : I have revised the title of the manuscript, and the new title is: “Analysis of Turing instability of the Fitzhugh-Nagumo model in diffusive network”.</p> <p>Response to question 4 : I have adjusted the structural framework in the revised manuscript.</p>
<p>Minor REVISION comments</p> <p>1. Is language/English quality of the article suitable for scholarly communications?</p>	<p>Comment:</p> <ul style="list-style-type: none">Provide some quantitative result <p>I. INTRODUCTION</p> <p>Comment:</p> <ul style="list-style-type: none">Kindly mention your proposal in the last paragraph followed by the basic structure of the paperThe basic structure of the paper should be described as: This paper is structured as follows: The section 2 entails an analysis of the single neuron model, followed by an examination of the FHN model under network diffusion in section 3, where we derive relevant expressions concerning the diffusion coefficient. Finally, section 4 concludes and offers prospects for further research. Also see the numbering of the sections. I think The section 5 is the conclusion <p>II. Dynamic analysis with FHN model without diffusive network</p> <p>III. Dynamic analysis with FHN model in diffusive network</p> <p>Comment:</p> <ul style="list-style-type: none">Section 2 and 3 can be merged in one section with subsections: Dynamic analysis with FHN model without diffusive network and Dynamic analysis with FHN model in diffusive network	<p>Thank you very much for your suggestions. We have added quantitative indicators in the network to the newly submitted manuscript and adjusted the structural framework of the paper.</p>

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	<ul style="list-style-type: none">Provide detailed methodology of your proposalDetails of your proposed modelDetails of the simulation environment so that researchers can replicate your result 4. Simulation (Write Simulation Result) Comment: <ul style="list-style-type: none">Quantitative comparison with state of the art is highly recommended 5. Conclusion Comment: <ul style="list-style-type: none">Please add quantitative results Yes	
<u>Optional/General</u> comments	General comments are attached as auxiliary file	

PART 2:

	Reviewer’s comment	Author’s comment <i>(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)</i>
Are there ethical issues in this manuscript?	<u>(If yes, Kindly please write down the ethical issues here in details)</u>	There are no ethical issues in this article.