Review Form 1.7

Journal Name:	**Physical Science International Journal**
Manuscript Number:	**Ms_PSIJ_98181**
Title of the Manuscript:	**Aeroelastic flutter of Functionally Graded Beams reinforced with Hydrogen-Functionalized Graphene Nanoplatelets**
Type of the Article	**Research**

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:

(https://www.journalpsij.com/index.php/PSIJ/editorial-policy)

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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 **1. Is the manuscript important for scientific community?** (Please write few sentences on this manuscript) **2. Is the title of the article suitable?** (If not please suggest an alternative title) **3. Is the abstract of the article comprehensive?** **4. Are subsections and structure of the manuscript appropriate?** **5. Do you think the manuscript is scientifically correct?** **6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.** **(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)**	**yes** **yes** **yes** **no must be extended** **yes** **Must be extended.**	
Minor REVISION comments **1. Is language/English quality of the article suitable for scholarly communications?**	yes	
Optional/General comments	Aeroelastic problem of the hydrogen-functionalized graphene nanoplatelet-reinforced composite beams under supersonic airflow have been analyzed. Based on the machine learning -modified Halpin-Tsai model, the temperature-dependent material properties are evaluated. Governing equations of motions of the beams are established based on the first-order shear deformation theory and the aerodynamic pressure is evaluated by the piston theory. The dynamic equations are spatially discretized by using the Hamilton's principle combined with Ritz trial functions. Some parametric results have been supplied. From my point of view, this topic is interesting and timely. The article is well-written and free from grammatical errors. It is also matched with the journal scope. Hence, I recommend its publication after a major revision based on the following comments: 1. The authors are encouraged to show the main practical applications of the solved problem in detail. The engineering motivation for the problem should be reinforced; perhaps. 2. The contributions and novelties of the paper should be clearly outlined in the last paragraph of the Intro section to justify the motivation for this study. It should be clearly highlighted how the proposed study will fill the gap in the existing literature. It is not very clear for a general reader. 3. The authors should explain how to choose the machine learning parameters in title problem. 4. The section of conclusion is too long and seems as abstract. This section needs to be revised by giving the main conclusions of the study and the significance of the obtained results. 5. The current references are appropriate. However, the reference list is brief. Consequently, some new references about the research/other size dependent theories subject should be added in the reference list and cited properly in the text. For	

	instance, Demir, C., Mercan, Numanoglu, H.M., Civalek, O. Bending response of nanobeams resting on elastic foundation, Journal of Applied and Computational Mechanics 4 (2), 105-114; 2018. A new eigenvalue problem solver for thermo-mechanical vibration of Timoshenko nanobeams by an innovative nonlocal finite element method. Mathematical Methods in the Applied Sciences 45 (5), 2592-2614; 2022. Dynamic analysis of a fiber-reinforced composite beam under a moving load by the Ritz method. Mathematics 9 (9), 1048; 2021	

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)*	

Reviewer Details:

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