

Review Form 3

Journal Name:	Asian Research Journal of Mathematics
Manuscript Number:	Ms_ARJOM_127792
Title of the Manuscript:	ON FUZZY SOBOLEV SPACES $W^{(1,p)}(\Omega)$: ANALYSIS OF DOT PRODUCT AND FUZZY NORM
Type of the Article	Original Research Article

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PART 1: Comments

	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.		
Is the title of the article suitable? (If not please suggest an alternative title)		
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.		
Is the manuscript scientifically, correct? Please write here.		
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.		

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<p>Is the language/English quality of the article suitable for scholarly communications?</p>		
<p>Optional/General comments</p>	<p>Having reviewed your project, I would want to express my appreciation for the diligence and commitment shown in your research. Here are some strengths and recommendations I have outlined-</p> <ul style="list-style-type: none"> • The proposed method clearly bridges classical mathematical analysis with fuzzy set theory, providing tools for uncertainty related problems. • The literature review is complete, including the most relevant and current published work indicating that the lack of an analysis of fuzzy Sobolev spaces limits the rigor of their investigation. • The proposed work is explained in detail, illustrating how it will expand knowledge for modeling FDEs with uncertain coefficients or boundary conditions. • The proposal is well written, logically organized, and free of grammatical or spelling mistakes. • Engineering, medical imaging, and decision-making problems frequently use imprecise or fuzzy data. A good framework to deal with these issues is to introduce fuzzy norms into Sobolev spaces. <p>Areas of improvement</p> <ul style="list-style-type: none"> • The creation of effective numerical techniques to solve FDEs in fuzzy Sobolev spaces is still in its early stages. For the simulation and computation of solutions, strong algorithms and software tools are required. • Theoretical results need validation through applications to real-world problems. It is crucial to set standards and contrast fuzzy Sobolev procedures with other uncertainty-based techniques, such as classical methods. • In fuzzy Sobolev spaces, the dot product's characteristics might not necessarily be directly applicable to the classical situation. To completely comprehend the effects of fuzziness on inner product structures and bilinear forms, more research is required. 	

PART 2:

	<p>Reviewer's comment</p>	<p>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>
<p>Are there ethical issues in this manuscript?</p>	<p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p>	

Reviewer Details:

<p>Name:</p>	<p>Rehna Kalam</p>
<p>Department, University & Country</p>	<p>University of Bolton Ras Al Khaimah, UAE</p>