

[Review Form 3](#)

Book Name:	Engineering Research: Perspectives on Recent Advances
Manuscript Number:	Ms_BPR_4026
Title of the Manuscript:	Integration of CAD and FEA for Structural Optimization of a Flywheel
Type of the Article	Book chapter

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.	<ul style="list-style-type: none"> The authors present their analysis with simulation and a physical prototype for a flywheel for the FEA. This lets them accurately determine the stresses and deformations and the results were validated using Siemens NX and Nastran solver with more than 99.318% confidence level. However, based on the values obtained for Figure 6 for the Pressing force, Torque, and Centrifugal force, it is not clear whether this was a basis of consideration before performing FEA in the subsequent sections. Authors must clarify with proper reasoning how they used all the equations in the Theoretical consideration before performing the FEA. There is lack of proper understanding on how Automation was implemented to improve your calculations. For example, the Abstract says, "Automation of the calculations accelerated development" but in your paper there is very limited information on use of "Automation". Please specify which CAD software the authors have used for CAD modelling. 	
Is the title of the article suitable? (If not please suggest an alternative title)	It is highly recommended to enhance the title to: "Integration of Computer-Aided Design (CAD) and Finite Element Analysis (FEA) for Structural Optimization of a Flywheel by Automation"	
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.	Abstract is clear and concise. Objective of the study is clear when describing the methods adopted such as FEA and CAD. The use of mathematical analysis and automation of the calculations presented makes the subject matter clear from both author's perspectives and for readers as well. However, please use FEA instead of FEM in your abstract.	
Is the manuscript scientifically, correct? Please write here.	Scientifically the results presented are consistent with the simulation and design. However, a flow of information must be organized into minimum of given sections: Introduction, Methods, Results, and Conclusion/ Discussion. The authors have grouped the Methods and Results together. So, it is recommended to separate them.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. :	<p>References were appropriately chosen. However, it is recommended to add some recent publications from past five years to the research paper. For example, please consider some papers below:</p> <ol style="list-style-type: none"> C. Zhang and K. J. Tseng, "Design and FEM analysis of a flywheel energy storage system assisted by integrated magnetic bearings," 30th Annual Conference of IEEE Industrial Electronics Society, 2004. IECON 2004, Busan, Korea (South), 2004, pp. 1634-1639 Vol. 2, doi: 10.1109/IECON.2004.1431826. R. Takarli <i>et al.</i>, "A Comprehensive Review on Flywheel Energy Storage Systems: Survey on Electrical Machines, Power Electronics Converters, and Control Systems," in <i>IEEE Access</i>, vol. 11, pp. 81224-81255, 2023, doi: 10.1109/ACCESS.2023.3301148. <p>This will allow you to provide information on how you addressed the gaps in the past research.</p>	

[Review Form 3](#)

<p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>Grammar is good but needs improvements in spelling and formatting. For example, please fix the spelling at this location “design improves performance, uniformi zes stress distribution,”</p>	
<p>Optional/General comments</p>	<ul style="list-style-type: none"> • Figure title formats are inconsistent. For example, “Fig.1” and “Figure.2.” are differently titled. Please correct these errors. • Use consistent abbreviation for FEA and FEM. For example, the abstract says “Finite Element Analysis (FEM)” whereas the title says “FEA”. Similarly, throughout the document both FEA and FEM were used interchangeably. • Please add units in the Nomenclature. 	

PART 2:

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

Reviewer Details:

<p>Name:</p>	<p>Pravin Sankhwar</p>
<p>Department, University & Country</p>	<p>Malaviya National Institute of Technology, USA</p>