

Review Form 3

Journal Name:	Journal of Engineering Research and Reports
Manuscript Number:	Ms_JERR_121200
Title of the Manuscript:	Design and Simulation Analysis of a Modular Parallel Four-Bar Linkage Robotic Arm
Type of the Article	

Review Form 3

PART 1: Review Comments

Compulsory REVISION 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. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.	<p>The paper addresses challenges related to controlling the end posture and improving positioning accuracy of robotic arms. It presents the design and analysis of a modular parallel four-bar linkage robotic arm, detailing the derivation of its kinematic relationships and conducting simulation analysis using Matlab's Robotic Toolbox. The effectiveness of the inverse kinematics model and the end positioning control scheme are verified through these simulations.</p> <p>1. Strengths:</p> <ul style="list-style-type: none"> • Comprehensive Kinematic Analysis: The paper provides a detailed derivation of the shape space, end position space, and kinematic relationships (both forward and inverse) for the modular robotic arm, which is crucial for understanding and controlling the arm's movements. • Simulation and Validation: The use of Matlab's Robotic Toolbox for simulation adds rigor to the study. Simulations are essential for validating theoretical models and checking practical applicability, which the authors have effectively demonstrated. • Workspace Calculation: Employing the Monte Carlo method for calculating the robotic arm's workspace is a significant advantage. This method offers a balance between computational efficiency and accuracy, making it well-suited for complex kinematic structures. • Addressing Real-World Challenges: The study's focus on improving end posture control and positioning accuracy aligns well with practical needs in various applications, including manufacturing and medical fields. The consideration of modular design to simplify complexity is a notable contribution. <p>2. Areas for Improvement:</p> <ul style="list-style-type: none"> • Detailed Analysis of Limitations: The paper could benefit from a more detailed discussion of the limitations of the proposed method. For example, how does the modular design handle extreme operating conditions or high-load scenarios? • Comparison with Existing Methods: A comparison of the proposed approach with existing methods for end posture control and positioning accuracy would provide better context for its advantages and potential drawbacks. 		
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.			
Are subsections and structure of the manuscript appropriate?			
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.			
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.			

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Minor REVISION comments		
Is the language/English quality of the article suitable for scholarly communications?		
Optional/General comments		

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

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