

Review of: "Investigating the Mechanical and Tribological Effects of MoS₂ Reinforcement in AZ91 Magnesium Alloy: A Comprehensive Experimental Study"

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Potential competing interests: No potential competing interests to declare.

First of all, I would like to thank you very much for choosing our journal for your article. It is a very successful and meticulously prepared article. If you answer the questions I have asked, I would like to read the article again.

- Can you discuss the scalability of the FSP technique for industrial applications and the challenges associated with scaling up from a laboratory to an industrial setting?
- How does the performance of MoS₂ as a reinforcement compare to that of other commonly used materials in similar FSP applications?
- What is the rationale behind choosing the specific FSP parameters reported in your study, and how might changes in these parameters affect the results?
- Can you explain the interaction of MoS₂ with the magnesium matrix at the high temperatures experienced during FSP?
- How do the mechanical properties of the FSP-modified AZ91 alloy compare with those of the base material, especially in terms of tensile strength and hardness?
- Could you provide insights or data on the impact resistance or fatigue life of the modified alloy?
- Are there plans for further research into different types of reinforcements or composite formulations to improve the properties of magnesium alloys using FSP?
- How do you envision the application of your findings in real-world automotive or aerospace components, and what are the potential commercial benefits or environmental impacts?
- Are the micrographs and stress-strain curves presented in your manuscript representative of typical results, and how was the reproducibility of the experimental outcomes ensured?