

Peer Review

Review of: "Heat Transfer in Composite Materials: Mechanisms and Applications"

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This review offers a comprehensive examination of the various heat transfer mechanisms within composite materials and explores how these processes, spanning different lengths and time scales, are influenced by the materials' composition and structure. The best review articles often combine theoretical models with experimental validation, providing readers with a clear understanding of how theoretical predictions hold up in real-world scenarios.

1. Some review papers, depending on their level of detail, have a tendency to oversimplify intricate heat transfer phenomena in composites, which could deceive readers seeking in-depth knowledge.
2. A thorough study should cover the most recent developments in the subject, such as heat management in 3D-printed structures or nanocomposites, in addition to summarizing the state of the art. The article may seem out of date if these are missing. Can you provide examples of recent advancements in heat management, such as in 3D-printed structures, that should be included?
3. At the micro, meso, and macro sizes, the thermal behaviour of certain composite materials varies significantly. This multi-scale character of heat transport and the difficulties in cross-scale modelling would be covered in a comprehensive assessment.
4. This could be a drawback if the paper mostly uses a small number of experimental techniques or doesn't include a thorough examination of the findings. A thorough review will strike a balance between experimental and theoretical viewpoints.
5. As with any review article, its success depends on the depth of coverage, clarity of explanations, and inclusion of both classic theories and cutting-edge research. What specific experimental techniques or findings would you recommend the authors explore more thoroughly?

Declarations

Potential competing interests: No potential competing interests to declare.