# Article information:

Heat transfer enhancement of paraffin wax using graphite foam for thermal energy storage - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0927024810000474>

# Article summary:

1. Mesophase pitch based graphite foams (GFs) with different thermal properties and pore-size were used to increase the thermal diffusivity of phase change material (PCM), paraffin wax, for latent heat thermal energy storage application.

2. Results indicated that thermal diffusivity of the Paraffin-GF can be enhanced up to 570 times as compared with that of pure paraffin wax.

3. Latent heat of Paraffin-GF systems increased with the increasing of the mass ratio of the paraffin wax in the composite, and pore-size and thickness of ligaments of the foam played a key role in improving the thermal diffusivity and storage capacity of the Paraffin-GF system.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article “Heat transfer enhancement of paraffin wax using graphite foam for thermal energy storage” is generally reliable and trustworthy, as it provides evidence from experiments conducted by researchers in their laboratory to support its claims. The article is well written, providing clear explanations for each step taken in their experiments, as well as detailed results from their measurements. The authors also provide references to other relevant studies which have been conducted on similar topics, demonstrating an understanding of existing research in this field.

However, there are some potential biases present in this article which should be noted. Firstly, there is a lack of discussion regarding possible risks associated with using graphite foam for thermal energy storage applications; while it is mentioned that carbon materials are chemically inert and have high thermal conductivity, there is no mention of any potential health or environmental risks associated with using these materials. Additionally, while the authors do provide references to other relevant studies on similar topics, they do not explore any counterarguments or alternative points of view which may exist within these studies; instead they focus solely on supporting their own claims without considering any opposing views or evidence which may exist within existing research.

In conclusion, while this article does provide evidence from experiments conducted by researchers in their laboratory to support its claims, there are some potential biases present which should be noted when assessing its trustworthiness and reliability.

# Topics for further research:

* Graphite foam health risks
* Environmental impacts of graphite foam
* Alternative thermal energy storage materials
* Counterarguments to graphite foam thermal energy storage
* Graphite foam thermal energy storage safety
* Graphite foam thermal energy storage efficiency

# Report location:

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