# Article information:

A review of heat transfer and thermal management methods for temperature gradient reduction in solid oxide fuel cell (SOFC) stacks - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0306261920313660>

# Article summary:

1. This paper reviews the heat transfer mechanisms in SOFCs and the associated thermal management methods.

2. Temperature gradients in SOFCs can lead to delamination and cracks in the electrolyte and electrode, so values of temperature gradient of SOFCs are summarized.

3. Commonly used thermal management methods for temperature gradient reduction in SOFC stacks are discussed, such as designing proper gas channels, using effective flow arrangements, integrating heat pipes into interconnects, and adjusting fuel compositions.

# 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:

This article provides a comprehensive review of heat transfer and thermal management methods for temperature gradient reduction in solid oxide fuel cell (SOFC) stacks. The article is well-structured and provides an overview of the current state of research on this topic. It also offers suggestions for future studies related to thermal management of SOFCs.

The article is generally reliable and trustworthy, as it cites relevant sources throughout the text to support its claims. However, there are some potential biases that should be noted. For example, the article does not discuss any potential risks associated with using SOFCs or any counterarguments to its claims about their effectiveness as power generation devices. Additionally, while the article does provide a comprehensive overview of current research on this topic, it does not explore any unexplored areas or present any new evidence or arguments that could challenge existing theories or assumptions about SOFCs.

In conclusion, this article provides a thorough review of heat transfer and thermal management methods for temperature gradient reduction in solid oxide fuel cell (SOFC) stacks that is generally reliable and trustworthy. However, there are some potential biases that should be noted when considering its content.

# Topics for further research:

* Potential risks of using SOFCs
* Counterarguments to SOFC effectiveness
* Unexplored areas of SOFC research
* New evidence for SOFCs
* Challenges to existing SOFC theories
* SOFC thermal management optimization

# Report location:

<https://www.fullpicture.app/item/d4128ac51db2afb866836f3cdfaa315e>