# Article information:

A sandwich-type composite polymer electrolyte for all-solid-state lithium metal batteries with high areal capacity and cycling stability - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S037673881931467X>

# Article summary:

1. A sandwich-type composite polymer electrolyte was developed for all-solid-state lithium metal batteries with high areal capacity and cycling stability.

2. The electrolyte was flexible with fast Li+ ions transportation ability, and worked well with high-voltage cathodes.

3. The cell with the electrolyte showed improved high-voltage and cycling stability, as well as excellent rate performance and cycle stability.

# 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 “A sandwich-type composite polymer electrolyte for all-solid-state lithium metal batteries with high areal capacity and cycling stability” is a scientific paper that provides an overview of the development of a new type of solid electrolyte for use in all-solid-state lithium metal batteries (ASSLMBs). The paper is written in a clear and concise manner, providing detailed information on the composition of the new electrolyte, its properties, and its performance when used in ASSLMBs.

The article is generally reliable and trustworthy, as it provides evidence to support its claims through experiments conducted by the authors. Furthermore, the authors provide detailed descriptions of their methodology, which allows readers to assess the validity of their results. Additionally, the authors discuss potential limitations of their work such as possible side reactions between the electrodes and electrolytes or oxidation of PEO at higher voltages.

However, there are some points that could be further explored in order to improve the trustworthiness of this article. For example, while the authors discuss potential limitations of their work, they do not provide any counterarguments or alternative solutions to these issues. Additionally, while they provide evidence to support their claims regarding the performance of their new electrolyte when used in ASSLMBs, they do not explore any other potential applications or implications for this technology beyond what is discussed in this paper. Finally, while they discuss potential risks associated with using this technology such as side reactions between electrodes and electrolytes or oxidation at higher voltages, they do not provide any recommendations on how to mitigate these risks or how to ensure safety when using this technology.

In conclusion, overall this article is reliable and trustworthy due to its clear writing style and evidence provided by experiments conducted by the authors; however there are some areas that could be further explored in order to improve its trustworthiness such as exploring counterarguments or alternative solutions to potential limitations mentioned by the authors or exploring other potential applications or implications for this technology beyond what is discussed in this paper.

# Topics for further research:

* All-solid-state lithium metal battery safety
* Alternative solutions for side reactions between electrodes and electrolytes
* Potential applications of sandwich-type composite polymer electrolyte
* Mitigation of oxidation at higher voltages
* Implications of all-solid-state lithium metal batteries
* Counterarguments to potential limitations of sandwich-type composite polymer electrolyte

# Report location:

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