# Article information:

Toward wide‐temperature electrolyte for lithium–ion batteries - Chen - 2022 - Battery Energy - Wiley Online Library
<https://onlinelibrary.wiley.com/doi/full/10.1002/bte2.20210006>

# Article summary:

1. Lithium-ion batteries (LIBs) have become the most advanced battery technology due to their high energy density, long cycle life, and low self-discharge.

2. Temperature is an important factor that affects the health and safe operation of LIBs, and its operating temperatures are generally located in the range of -20°C to 60°C.

3. To improve the wide-temperature performance of LIBs, it is necessary to modify the electrolyte system as it plays an important role in transferring Li+ and conducting internal circuits.

# 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 “Toward Wide‐Temperature Electrolyte for Lithium–ion Batteries” by Chen (2022) provides a comprehensive overview of strategies employed to improve the electrochemical performance of electrolytes towards low-temperature, high-temperature, and wide-temperature applications. The article is well written and provides a detailed analysis of the factors affecting the wide-temperature performance of LIBs. It also discusses various strategies employed to improve the performance of electrolytes at different temperatures.

The article is reliable and trustworthy as it provides evidence for its claims with references from credible sources such as Science, Elsevier, etc. It also presents both sides equally by discussing both low temperature and high temperature effects on battery polarization. Furthermore, it does not contain any promotional content or partiality towards any particular strategy or technology used for improving wide temperature performance of LIBs.

However, there are some points which could be further explored in this article such as potential risks associated with using certain strategies for improving wide temperature performance of LIBs or unexplored counterarguments against certain strategies discussed in this article. Additionally, more evidence could be provided for some claims made in this article such as providing more details about how BTMS suffers from poor temperature measurement accuracy or reduced energy density of battery system due to BTMS usage.

# Topics for further research:

* Risks associated with wide temperature electrolyte for lithium-ion batteries
* Counterarguments against strategies for improving wide temperature performance of LIBs
* Temperature measurement accuracy of BTMS
* Impact of BTMS on energy density of battery system
* Strategies for improving low temperature performance of LIBs
* Strategies for improving high temperature performance of LIBs

# Report location:

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