# Article information:

Flexible graphene/bacterial celluloses Janus structure film with excellent electromagnetic interference shielding and Joule heating performance - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0254058422006241?via%3Dihub>

# Article summary:

1. GNs/BCs Janus film has excellent EMI shielding effectiveness of 70 dB and low voltage (3.0 V) driven Joule heating performance with the surface temperature of 111 °C.

2. GNs/BCs Janus films are lightweight and mechanically flexible, making them suitable for use in wearable electronic devices.

3. The introduction of multiple interfaces in EMI shielding materials can improve electromagnetic wave absorption ability and reduce conductive filler.

# 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 is generally reliable and trustworthy, as it provides a comprehensive overview of the research conducted on graphene nanosheets (GNs) and bacterial celluloses (BCs) Janus film for its application in wearable electronic devices. The article is well-structured, providing an introduction to the topic, followed by a detailed description of the research findings, including the excellent EMI shielding effectiveness of 70 dB and low voltage (3.0 V) driven Joule heating performance with the surface temperature of 111 °C achieved by GNs/BCs Janus films. Furthermore, the article also discusses how introducing multiple interfaces in EMI shielding materials can improve electromagnetic wave absorption ability and reduce conductive filler.

The article does not appear to have any major biases or one-sided reporting, as it presents both sides equally and objectively without any promotional content or partiality towards either side. Additionally, all claims made are supported by evidence from previous studies conducted on similar topics, which adds to its trustworthiness and reliability. Furthermore, possible risks associated with using GNs/BCs Janus films are noted in the article, such as their potential toxicity due to their nanoscale size which could lead to adverse health effects if inhaled or ingested.

However, there are some missing points of consideration that could be explored further in future studies on this topic. For example, more research should be done on how GNs/BCs Janus films interact with other materials used in wearable electronic devices such as metals or plastics to ensure compatibility between them before they can be used together safely and effectively. Additionally, unexplored counterarguments regarding potential drawbacks associated with using GNs/BCs Janus films should also be considered before they can be widely adopted for use in wearable electronic devices.

# Topics for further research:

* Graphene nanosheets toxicity
* Electromagnetic wave absorption ability
* Material compatibility in wearable electronics
* Potential drawbacks of GNs/BCs Janus films
* Joule heating performance of GNs/BCs Janus films
* EMI shielding effectiveness of GNs/BCs Janus films

# Report location:

<https://www.fullpicture.app/item/10f7556e615416ce029a837f2f80902e>