# Article information:

Mechanical properties of 3D re-entrant honeycomb auxetic structures realized via additive manufacturing - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0020768315002152>

# Article summary:

1. An analytical model of a 3D re-entrant honeycomb auxetic cellular structure was established and analyzed.

2. The tailorability of mechanical properties was demonstrated for the structure via geometrical designs.

3. Manufacturing induced mechanical property issues were discussed and compared with experimentation and finite element analysis.

# 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 an in-depth analysis of the mechanical properties of 3D re-entrant honeycomb auxetic structures realized via additive manufacturing. The authors provide a comprehensive overview of the existing literature on auxetic structures, which helps to contextualize their research findings. Furthermore, they present their results in comparison to experiments and finite element analysis, which adds credibility to their claims.

However, there are some potential biases that should be noted in the article. For example, the authors focus primarily on the benefits of auxetic structures without exploring any potential risks or drawbacks associated with them. Additionally, they do not discuss any possible counterarguments or alternative perspectives on their research findings, which could lead to a one-sided reporting of their results.

In addition, there are some missing points of consideration that should be addressed in future research on this topic. For instance, the authors do not explore how different materials may affect the mechanical properties of these structures or how they may perform under different environmental conditions such as temperature or humidity changes. Furthermore, they do not discuss any potential limitations associated with additive manufacturing when fabricating these structures or how this process may affect their performance over time.

In conclusion, while this article is generally reliable and trustworthy due to its comprehensive overview of existing literature and comparison to experiments and finite element analysis, there are some potential biases that should be noted as well as some missing points of consideration that should be explored in future research on this topic.

# Topics for further research:

* Auxetic structures drawbacks
* Auxetic structures alternative perspectives
* Different materials effects on auxetic structures
* Auxetic structures performance under environmental changes
* Limitations of additive manufacturing for auxetic structures
* Long-term performance of auxetic structures fabricated via additive manufacturing

# Report location:

<https://www.fullpicture.app/item/bc2eb92a2a3b1638bd535edacd169434>