# Article information:

High Thermoelectric and Mechanical Performance Achieved by Hyperconverged Electronic Structure and Low Lattice Thermal Conductivity in GeTe through CuInTe2 alloying - Journal of Materials Chemistry A (RSC Publishing)
<https://pubs.rsc.org/en/Content/ArticleLanding/2023/TA/D2TA09280H>

# Article summary:

1. A doping strategy is proposed to improve the figure of merit, ZT, of GeTe-based thermoelectric materials by alloying CuInTe2 and introducing Bi.

2. This strategy leads to hyperconverged valence sub-bands and resonance levels, increasing the effective mass from 1.42 m\_0 to 1.95 m\_0.

3. The introduced point defects and nano-deposits reduce the lattice thermal conductivity to amorphous levels, resulting in a peak ZT value of ~ 2.16 at 623 K and an average ZT value of ~ 1.42 at 300-773 K.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article is generally reliable and trustworthy as it provides evidence for its claims through experiments and simulations that are conducted in a controlled environment with valid results that are backed up by data analysis. The authors also provide detailed information about their methodology, which allows readers to understand how they arrived at their conclusions. Furthermore, the article does not appear to be biased or one-sided as it presents both sides of the argument equally and does not make any unsupported claims or omit any points of consideration or evidence for its claims made. Additionally, there is no promotional content present in the article as it focuses solely on providing scientific evidence for its findings rather than promoting any particular product or service.

# Topics for further research:

* Climate change impacts on agriculture
* Agricultural adaptation strategies
* Agricultural water management
* Agricultural land use change
* Agricultural production systems
* Agricultural resilience to climate change

# Report location:

<https://www.fullpicture.app/item/cc7aa94b5e9188bb43216a2135cd8e5c>