# Article information:

Upper limit of the transition temperature of superconducting materials: Patterns
[https://www.cell.com/patterns/fulltext/S2666-3899(22)00234-3?\_returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS2666389922002343%3Fshowall%3Dtrue](https://www.cell.com/patterns/fulltext/S2666-3899%2822%2900234-3?_returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS2666389922002343%3Fshowall%3Dtrue)

# Article summary:

1. A materials informatics study was conducted to explore the electronic nature of superconductivity.

2. It was found that there is a close correlation between the upper limit of the transition temperature (Tc) and the energy-level distribution of valence electrons.

3. This implies that some additional inter-orbital electron-electron interaction should be considered in understanding high-Tc superconductivity.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

The article provides an overview of a materials informatics study on the electronic nature of superconductivity, and its findings suggest that there is a close correlation between the upper limit of the transition temperature (Tc) and the energy-level distribution of valence electrons. The article does not provide any evidence for this claim, however, which makes it difficult to assess its trustworthiness and reliability. Additionally, while the article mentions various correlations between Tc and various parameters, it does not explore any counterarguments or potential risks associated with these correlations. Furthermore, while it mentions that two pairing glues may be necessary for high-Tc superconductivity, it does not provide any evidence to support this claim either. Finally, while the article provides some useful insights into understanding high-Tc superconductivity, it does not present both sides equally or explore all possible points of consideration when discussing this topic.

# Topics for further research:

* High-Tc superconductivity risks
* Counterarguments to high-Tc superconductivity correlations
* Valence electron energy-level distribution
* Two pairing glues for high-Tc superconductivity
* Potential applications of high-Tc superconductivity
* Advantages and disadvantages of high-Tc superconductivity

# Report location:

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