# Article information:

Exceptional fracture toughness of CrCoNi-based medium- and high-entropy alloys at 20 kelvin | Science  
<https://www.science.org/doi/10.1126/science.abp8070>

# Article summary:

1. Liu et al. discovered a high-entropy chromium-cobalt-nickel alloy that has an incredibly high fracture toughness at 20 kelvin.

2. This behavior is caused by an unexpected phase transformation that, when combined with other microstructures, prevents crack formation and propagation.

3. The fracture toughness of this alloy makes it potentially useful for a range of cryogenic applications.

# 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 “Exceptional fracture toughness of CrCoNi-based medium- and high-entropy alloys at 20 kelvin” is written in a clear and concise manner, providing detailed information about the research conducted by Liu et al. The authors provide evidence to support their claims, such as references to previous studies on the topic and data from experiments conducted by the authors themselves. Furthermore, the authors provide a comprehensive discussion of the results of their research and potential implications for future applications of the alloy they studied.

However, there are some potential issues with the trustworthiness and reliability of this article that should be noted. First, while the authors do provide evidence to support their claims, they do not explore any counterarguments or alternative explanations for their findings. Additionally, while they discuss potential applications for their findings, they do not address any possible risks associated with using this alloy in cryogenic applications or any other potential drawbacks that may arise from its use. Finally, while the authors cite several sources throughout the article, it is unclear if these sources are unbiased or if they have any potential conflicts of interest that could influence their reporting on this topic.

In conclusion, while this article provides detailed information about Liu et al.'s research into CrCoNi-based medium- and high-entropy alloys at 20 kelvin and presents evidence to support their claims, there are some potential issues with its trustworthiness and reliability that should be taken into consideration before relying on its conclusions or recommendations.

# Topics for further research:

* Cryogenic applications of CrCoNi-based alloys
* Potential risks of using CrCoNi-based alloys
* Advantages of medium- and high-entropy alloys
* Conflicts of interest in research on CrCoNi-based alloys
* Alternative explanations for Liu et al.'s findings
* Potential drawbacks of using CrCoNi-based alloys

# Report location:

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