# Article information:

Real-space nanoimaging of hyperbolic shear polaritons in a monoclinic crystal | Nature Nanotechnology
<https://www.nature.com/articles/s41565-022-01264-4>

# Article summary:

1. Hyperbolic responses have been identified in various polar crystals, which can yield hyperbolic phonon polaritons with low loss and strong wave confinement.

2. Low-symmetry crystals (LSCs) such as monoclinic lattices offer an interesting ‘knob’ for fine phase and polarization control of light propagation.

3. This paper discusses the role of lower crystal symmetry on the generation and propagation of hyperbolic shear phonon polaritons, and reports their near-field real-space observation in monoclinic cadmium tungstate (CdWO4).

# 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, providing a comprehensive overview of the topic at hand. The authors provide evidence to support their claims, such as citing relevant studies that have been conducted on the topic previously. Furthermore, they provide a detailed explanation of how different types of crystals interact with light to produce hyperbolic phonon polaritons. The article also provides a clear explanation of how lower crystal symmetry affects the generation and propagation of these polaritons.

However, there are some potential biases present in the article that should be noted. For example, the authors focus mainly on the positive aspects of LSCs without exploring any potential risks or drawbacks associated with them. Additionally, they do not present both sides equally when discussing how lower crystal symmetry affects light propagation; instead, they focus mainly on how it can be used to enhance light–matter interactions at the nanoscale for various applications.

In conclusion, this article is generally reliable and trustworthy but does contain some potential biases that should be taken into consideration when reading it.

# Topics for further research:

* Potential risks of LSCs
* Light–matter interactions at the nanoscale
* Hyperbolic phonon polaritons
* Lower crystal symmetry effects
* Applications of LSCs
* Light propagation in LSCs

# Report location:

<https://www.fullpicture.app/item/13c77e972506259eca4fe5d79088ab6e>