# Article information:

Giant ferroelectric polarization in a bilayer graphene heterostructure | Nature Communications
<https://www.nature.com/articles/s41467-022-34104-z>

# Article summary:

1. Various types of ferroelectricity have been discovered in exfoliated mono- or few-layer flakes from bulk polar vdW crystals.

2. Interfacial ferroelectricity can emerge by stacking non-polar materials in a symmetry-breaking way.

3. Bilayer graphene aligned with hBN on both sides exhibits gate-specific ferroelectricity and concomitant anomalous screening ascribed to electron dynamics rather than purely ionic displacement.

# 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 and presents both sides of the argument equally. The authors provide a comprehensive overview of the research that has been done on ferroelectricity in van der Waals materials, and they present their own findings in detail. They also discuss potential applications of their findings, such as nonvolatile electronics with fast switching speed, non-destructive readout, and capability of high-density integration.

The article does not appear to be biased or one-sided; it presents both sides of the argument equally and does not make unsupported claims or omit counterarguments. It also does not contain any promotional content or partiality towards any particular viewpoint. The authors note possible risks associated with their findings, such as the lack of moiré features in experimental samples which could prevent quantitative comparison with theoretical models.

In conclusion, this article is reliable and trustworthy due to its balanced presentation of both sides of the argument and its inclusion of evidence for its claims.

# Topics for further research:

* Ferroelectricity in van der Waals materials
* Nonvolatile electronics with fast switching speed
* Non-destructive readout
* High-density integration of ferroelectric materials
* Moiré features in experimental samples
* Quantitative comparison with theoretical models

# Report location:

<https://www.fullpicture.app/item/36d02ddacd5f0c087bc77e191b53dd36>