

Sought-after magnetic properties in common alloy

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In a paper published Nov. 2 in *Nature Communications*, a team of researchers led by University of Maryland's Ichiro Takeuchi, in collaboration with Stanford Synchrotron Radiation Lightsource's Apurva Mehta, reported the discovery of large magnetostriction in an iron/cobalt alloy — in other words, the alloy shows a mechanical strain when a magnetic field is applied.

This property is sought after in materials with good mechanical properties for microelectromechanical systems (MEMS), sensors and actuators. However, magnetostrictive materials are usually based on rare or difficult-to-obtain materials, so scientists have been looking for alternatives based on common, cheap and widely available elements.

The team was able to enhance the magnetostriction of the alloy by more than a factor of three, and it appears that the mechanism by which they were able to do this can be used to discover even better magnetostriction properties in [alloys](#) of common metals.

More information: Nature Communications 2, Article number: 518
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