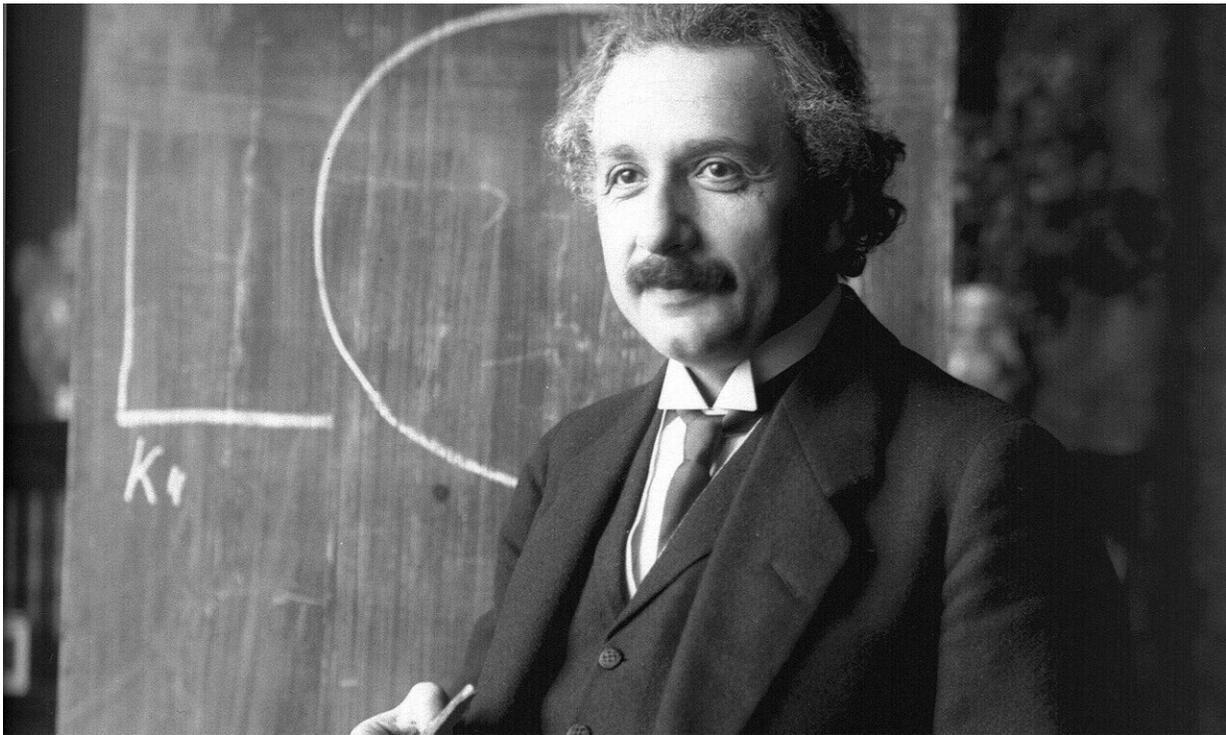


Study proposes combining continuum mechanics with Einstein field equations

July 24 2023



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Albert Einstein's general theory of relativity is a landmark in our understanding of the universe. It gave rise to the notion of a spacetime continuum against which all physical phenomena play out. But over the decades, it has inspired many questions that have yet to be answered: How can Einstein's equations describe forces other than gravity? And

what are the "dark" forms of energy and matter that cause the universe to expand and galaxies to evolve?

In a new article, author Piotr Ogonowski offers a seemingly simple solution—the theories of spacetime and electromagnetism are describing the same things. Beginning from Einstein's field equations, Ogonowski reveals their ability to describe all known physical interactions, including those described by classical electromagnetism. Spacetime, it appears, may simply be the way we perceive electromagnetic fields.

To support the consistency between spacetime and electromagnetism, the author describes how the [cosmological constant](#) in Einstein's theory, which is believed to be responsible for [dark energy](#) is actually a description of an electromagnetic field. The conclusions drawn could be far-reaching. If further research confirms these findings, it would mean that Einstein was right from the beginning and that General Relativity explains much more than just gravity.

The paper is published in the *International Journal of Modern Physics D*.

More information: Piotr Ogonowski, Proposed method of combining continuum mechanics with Einstein Field Equations, *International Journal of Modern Physics D* (2022). [DOI: 10.1142/S0218271823500104](#)

Provided by World Scientific Publishing

Citation: Study proposes combining continuum mechanics with Einstein field equations (2023, July 24) retrieved 28 April 2024 from <https://phys.org/news/2023-07-combining-continuum-mechanics-einstein-field.html>

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