

Best of Last Week—Trying to detect dark photon dark matter, testing GPT detectors, identifying narcissism

May 22 2023, by Bob Yirka

The dark photon dark matter has a small probability converts into visible radio wave at the dish of Five-hundred-meter Aperture Spherical radio Telescope (FAST), but may be detected at the feed of the telescope. Credit: Xinhua

It was a good week for physics research as a combined team of space scientists from Tsinghua University, the Purple Mountain Observatory

and Peking University reported that [dark photon dark matter could be directly detected using radio telescopes](#)—to find out, they have been using dished telescopes to search for dark photon-related electromagnetic signals. Also, a team at quantum computing company D-Wave Inc. [demonstrated quantum advantage on optimization problems with a 5,000-qubit programmable spin glass](#). And a team of physicists at Nanjing University testing reports of superconductivity at room temperature by another team announced that [they had failed in their attempt](#).

In technology news, a team at Stanford University [tested GPT detectors](#), programs created to discern whether a given sample of text was written by an AI app such as ChatGPT, and reported that they are generally unreliable, especially when comparing with a non-native English speaker. And a team at the University of Cambridge developed [a solar-powered technology that can convert carbon dioxide and water into a liquid fuel](#) that can be added directly to a car's engine as a drop-in fuel. Also, a team at Jiangnan University announced that they had developed what they described as [a breakthrough in ceramic 3D printing](#), a new type of ink that turns solid nearly instantly when exposed to near-infrared light. And a team at Donghua University developed [a self-healable, crack-resistant hydrogel microfiber](#) inspired by spider silk.

In other news, a team of medical researchers at Harvard Medical School may have found [the long-missing piece in the puzzle of breast cancer](#)—the molecular trigger that kicks off its development. A sociologist and a zoologist with the University of Copenhagen and Linacre College found evidence that suggested [the advent of humans kissing on the lips was 1,000 years earlier than others have claimed](#), pushing it back to 4,500 years ago. And finally, a team of psychologists at the University of Helsinki, working with a colleague from Millsaps College, discovered via experimentation [a clever new way to detect narcissism in a person](#) by giving them negative feedback and watching their facial response.

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