

Best of Last Week—A record-breaking gamma burst, a new battery for cars, new insights into long COVID

October 17 2022, by Bob Yirka

This 10-min fast-charging battery was developed for electric cars, with the black box on the top containing a battery management system to control the module.

Credit: EC Power

It was a good week for space science as a team working at the Gemini South telescope in Chile observed [a record-breaking gamma-ray burst](#)

—possibly the most powerful explosion ever recorded. Also, a combined team from Liverpool John Moores University and the University of Montpellier discovered that massive stars [sound a warning when they are about to go supernova](#). They become 100 times fainter due to material obscuring their light. And a team of researchers with members from Princeton University, the University of Texas at San Antonio, the University of Waikato, Los Alamos National Laboratory and the Southwest Research Institute discovered that [rippled structures](#) exist in the part of space that lies at the boundary of the solar system.

In technology news, a team at the University of Glasgow developed a system called ThermoSecure that is able to [reveal computer and smartphone passwords in seconds](#)—the AI-based system uses heat left by fingerprints to find where fingers have typed a password. Also, a team with members from Pennsylvania State University, the Beijing Institute of Technology and EC Power announced [a battery technology breakthrough](#) that could pave the way for mass adoption of affordable electric cars. Another team at Pennsylvania State University developed [a sensor that can tap into mobile vibrations to eavesdrop remotely](#). Also, a team at Ensign InfoSecurity, announced that they had developed [an image recognition tool for detecting typosquatting attacks](#)—called TypoSwepe, it is based on advanced image recognition techniques that convert strings into images.

In other news, a team with members affiliated with a host of institutions across the U.S., found via survey that [more than 40% of Americans misled others](#) about having COVID-19 and their use of precautions during the pandemic. Also, a team with members from several institutions in the U.S. and one in Belgium found evidence suggesting that [per- and polyfluoroalkyl substance contamination should be presumed at over 57,000 U.S. sites](#). Generally called PFAS, the chemicals break down very slowly and have been found to be harmful to humans and animals. And finally, a combined team from Kaiser

Permanente, the Mid-Atlantic Permanente Research Institute and Johns Hopkins University reported on their [research that shed new light on long COVID conditions](#).

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