## Best of Last Week – Gravitational waves leaving a mark, a new way to compute and sunscreen chemicals entering the body

May 13 2019, by Bob Yirka



It was another good week for physics, as a team of researchers working at the University of Chicago <u>violated Bell's inequality with remotely</u> <u>connected superconducting qubits</u>—demonstrating that precise quantum information can be sent along an extended communication path. Also, a team with members from the U.S., Ireland and the Netherlands found evidence that <u>gravitational waves leave a detectable mark</u>, possibly allowing detection even after they have already passed. And Sean McWilliams, an assistant professor at West Virginia University, announced that he had developed <u>a mathematical method for calculating black hole properties from gravitational wave data</u>. He also claimed that his results were as accurate as those provided by simulations.

In technology news, a team with members from Stanford University and the Fujifilm Corporation announced that they had created an <u>experimental device that generates electricity from the coldness of the</u> <u>universe</u>, a possible alternative to solar panels. And a team at Carnegie Mellon University's Human-Computer Interaction Institute announced <u>a</u> <u>smartwatch that can sense hand activity</u> like typing, washing dishes or petting a dog. Also, a team at New York University suggested <u>a new way</u> to compute by using a voltage-controlled topological spin switch that requires only electric fields rather than currents to switch between Boolean logic states.

In other news, a team at the University of New South Wales carried out what has been described as <u>impossible research</u> that produced a 400-year El Niño record, revealing startling changes. They drilled cores from coral and found that El Niño events have been changing in recent decades. Also, the FDA sent out a warning to diabetes patients, reporting that some newer <u>diabetes drugs</u> have been <u>linked to 'flesh-eating' genital</u> <u>infections</u>. And a team with members from the Moscow Institute of Physics and Technology and the Max Planck Institute for Solar System Research discovered <u>a new water cycle on Mars</u> in which water vapor rises from the lower into the upper Martian atmosphere.

And finally, with summer underway in the <u>northern hemisphere</u>, if you plan to spend time outdoors, you might want to check out a study led by

the FDA's Dr. David Strauss—he and his group found that <u>sunscreen</u> <u>chemicals enter the bloodstream at potentially unsafe levels</u>.

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