Best of Last Week – Quantum physics got less complicated, the pseudogap and ibuprofen as an anti-aging drug

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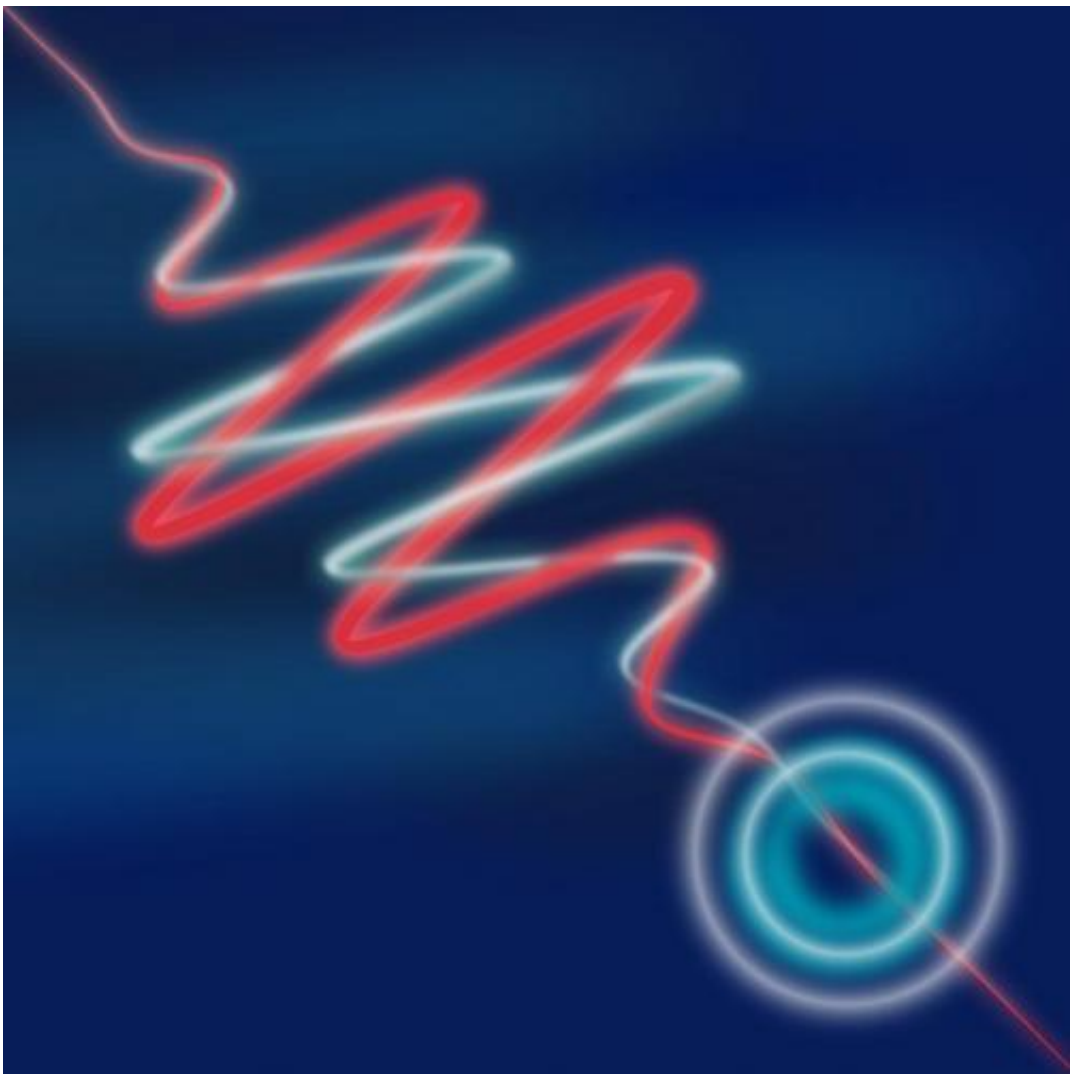

Quantum physics says that particles can behave like waves, and vice versa. Researchers have now shown that this 'wave-particle duality' is simply the

quantum uncertainty principle in disguise. Credit: Timothy Yeo / CQT, National University of Singapore

(Phys.org)—It was an interesting week for findings in the physics world as one team of researchers made quantum physics less complicated by demonstrating that two features of the quantum world are actually the same thing—turns out that wave-particle duality is actually a disguised version of the uncertainty principle. Meanwhile, another team wondered if the Higgs boson was a piece of the matter-antimatter puzzle. They think the recently found particle might actually play a role in the apparent imbalance between matter and antimatter in the universe and want to design and run experiments at LHC to look into the possibility. Also, another team found the first direct evidence of a mysterious phase of matter that competes with high-temperature superconductivity—they're calling it the "pseudogap," and think it might be robbing superconcuctors of electrons preventing 100 percent efficiencies.

Last week also saw India launch its biggest rocket ever into space, paving the way for manned missions and establishing the country as a major player in the space race. Also making headlines, Curiosity rover found active, ancient organic chemistry on Mars in the form of high levels of methane in the atmosphere around it and other chemicals in rock samples nearby, sparking interest in its source.

Also in a bit of interesting research, a team at the University of Utah announced that they'd come up with a "Darwinian" test that uncovers an antidepressant's hidden toxicity—they believe their new approach might help prevent some drugs being passed as safe which later are found to have harmful side effects and is based on using untamed house mice as subjects rather than bred test mice. And a professor with Rutgers made a strong case suggesting that thermoelectric power plants could offer

economically competitive renewable energy—Liping Liu thinks it's time countries in the tropics start taking advantage of the huge temperature difference of ocean water near the surface and at depth. He claims it represents a vast untapped resource and that countries near such sources should start working on ways to harness the energy potential it offers.

And finally for those people who still want to live a really long time, some researchers are wondering if ibuprofen might be an anti-aging medicine. Recent research has shown that the popular over-the counter drug could extend the lifespan of yeast, worms and flies—it also allowed them to remain healthier as they aged.

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