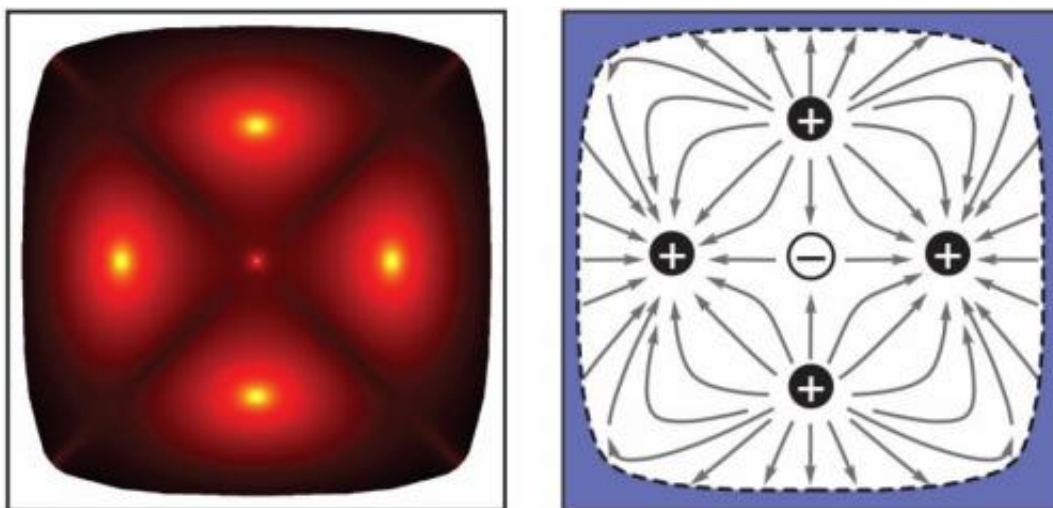


## Best of Last Week – Halting photons, a peer review problem and circadian clock shifting from e-readers

December 29 2014, by Bob Yirka

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Vortices of bound states in the continuum. The left panel shows five bound states in the continuum in a photonic crystal slab as bright spots. The right panel shows the polarization vector field in the same region as the left panel, revealing five vortices at the locations of the bound states in the continuum. These vortices are characterized with topological charges +1 or -1.

(Phys.org)—It was an interesting week even as we entered the holiday season, [researchers at MIT found that halting photons could lead to miniature particle accelerators and perhaps improved data transmission](#). The light trapping process discovered last year involved twisting the polarization direction now appears to be related to a wide range of other

seemingly unrelated phenomena. Also, physicist Robert Erlich claimed that neutrinos are likely tachyons, which would make them able to travel faster than light. He also believes the proof lies in [finding the faster-than-light particles by weighing them](#). In space news, a team of Russian and American researchers found what they are calling the Milky Way's new neighbor—an isolated dwarf galaxy that lies almost 7 million light years away from us; they have named it KKs3. Also [a pair of researchers proposed using ballistic capture as a cheaper path to Mars](#)—it involves putting a space craft into the orbital path of the Red planet and waiting for the planet to catch up, rather than shooting directly at it.

In biology news, [a team of scientists created precursors to human egg and sperm in the lab](#)—a sort of egg and sperm race. Meanwhile [a locking mechanism was found for "scissors" that cut DNA](#) by another team—an important part of the process of recombination that prevents enzymes from becoming overzealous. Also another team took what they are describing as ["baby-steps" toward developing an anti-aging drug](#). The drug, originally meant to bolster the immune system in seniors, also appears to slow or halt the [aging process](#).

In other interesting news, a team of researchers unveiled [a new programming language that automatically coordinates interactions between Web page components](#). It is called Ur/Web and it allows programmers to write Web applications as individual self-contained programs. Also another team of researchers has conducted [a study that shows that peer review could reject breakthrough manuscripts](#).

And finally, if you have been considering getting a Nook or other similar device to use at night to help with sleeping, you might want to know that a team of researchers has found that [light-emitting e-readers detrimentally shift the circadian clock](#), which could mean using them might actually make sleeping regularly more difficult.

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Citation: Best of Last Week – Halting photons, a peer review problem and circadian clock shifting from e-readers (2014, December 29) retrieved 20 April 2024 from <https://phys.org/news/2014-12-week-halting-photons-peer-problem.html>

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