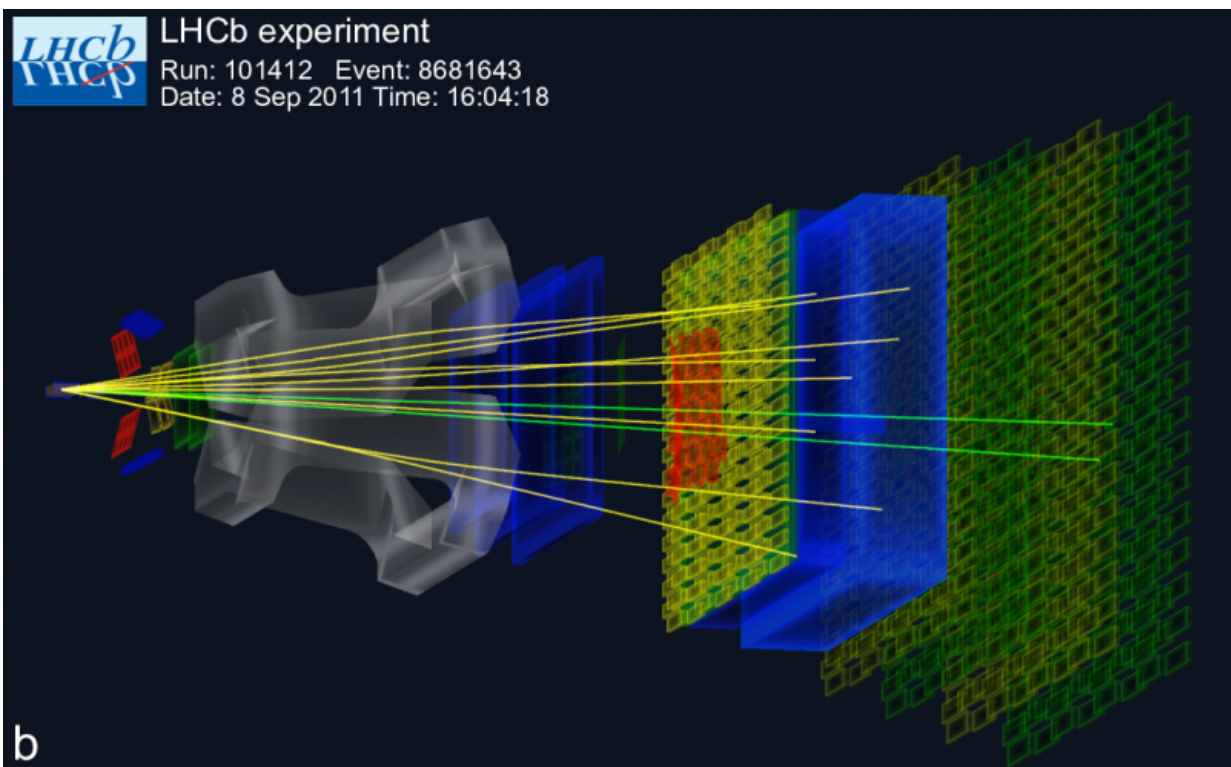


# Best of Last Week –A radiationless revolution, progress towards a fusion reactor and neuroticism's link to over-thinking

August 31 2015, by Bob Yirka



In this event display from the LHCb experiment at CERN's Large Hadron Collider, proton-proton collisions at the interaction point (far left) result in a shower of leptons and other charged particles. The yellow and green lines are computer-generated reconstructions of the particles' trajectories through the layers of the LHCb detector. Credit: CERN/LHCb Collaboration

(Phys.org)—It has been another good week for physics as a team working at the CERN complex found [evidence that suggests subatomic particles could defy the standard model](#)—they found tau leptons and muons decaying at different rates. Also, another team at the Australian National University announced [a new theory that could lead to a radiationless revolution](#)—it describes a way to confine electromagnetic energy without leakage. And Matthew Fisher with the University of California proposed the idea of [quantum cognition based on synaptic nuclear spins, i.e. neural qubits](#). His idea is that quantum processing with nuclear spins might be happening in the brain. Also, a company called [Tri Alpha Energy reportedly made an important breakthrough in developing a fusion reactor](#)—they found a way to hold a ball of superheated hydrogen plasma for five milliseconds.

The news from space was good as well, as NASA announced that [the New Horizons mission exceeded expectations](#)—sending back images of Pluto and its moons along with a host of other valuable scientific data. Also, another team of astrophysicists found [supermassive black holes in the quasar nearest Earth](#)—within Galaxy Markarian 231, they discovered has two black holes spinning around each other.

In other news, researchers working at Los Alamos National Laboratory announced that they had created [quantum dot solar windows that go non-toxic and colorless, all with record efficiency](#)—the windows capture some of the light that passes through the glass and divert it to solar cells at the edges. And a team of researchers at the University of Toronto announced that they had developed [a new "tissue Velcro" that could help repair damaged hearts](#)—it is a scaffolding upon which new heart muscle can grow. Also, another team working at MIT created a new printer called ["Multifab" that 3D-prints a record 10 materials at once with no assembly required](#). It has a resolution of 40 microns and is the first 3D printer to use 3D scanning techniques from machine vision.

And finally, if you have ever been accused of being neurotic, a small team of psychologists with King's College in London and Columbia University in the U.S. asked the question: [Is neuroticism fueled by overthinking?](#) And they think they have found why creativity and neurosis-related unhappiness and go hand-in-hand—the same parts of the brain appear to be involved in both.

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