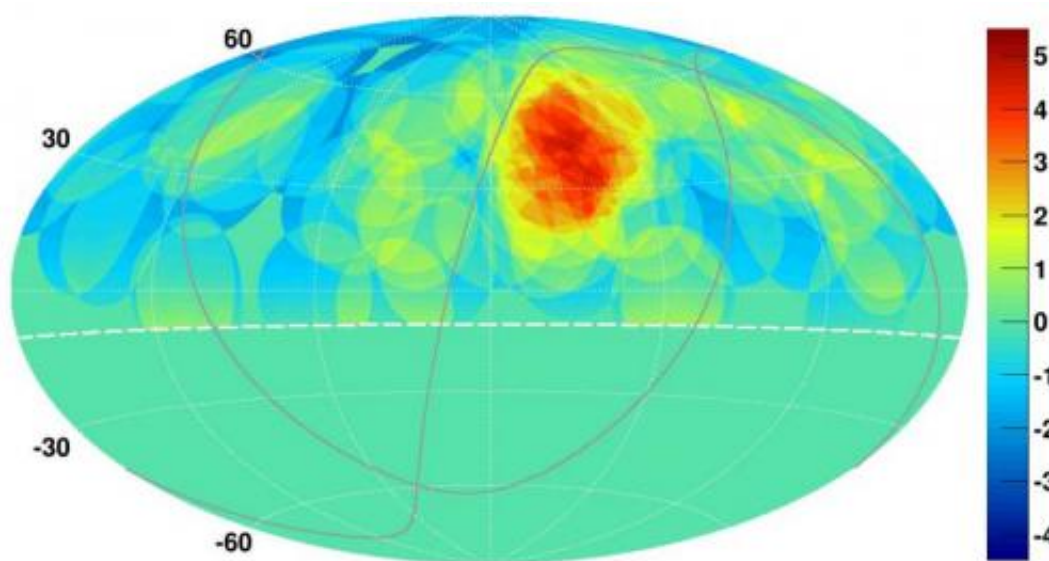


## Best of Last Week – Two mysterious bursts from space, new developments with batteries and fingertip reader for the blind

July 14 2014, by Bob Yirka

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This map of the northern sky shows cosmic ray concentrations, with a "hotspot" with a disproportionate number of cosmic rays shown as the bright red and yellow spot, upper right. An international team of physicists using the University of Utah-operated Telescope Array near Delta, Utah, say their discovery of the hotspot should narrow the search for the mysterious source or sources of ultrahigh-energy cosmic rays, which carry more energy than any other known particle in the universe. Credit: Kazumasa Kawata, University of Tokyo Institute for Cosmic Ray Research.

(Phys.org) —It was a big week for scientists studying the cosmos as [a](#)

[radio-burst discovery deepens astrophysics mystery](#)—a very short burst of radio waves indicates a mysterious pulse came from the outer regions of space. And in a similar effort, [physicists came a step closer to finding mysterious sources of energy bursts](#)—researchers reported finding a burst beneath the Big Dipper that might lead to identifying the source of the energetic particles. Also an [artificial spacetime experiment could show tantalizing effects of gravitational waves](#)—physicists are finding ways to recreate spacetime geometries in labs that allow for better analysis. And despite its age, an old probe is still revealing new information as the [sun sends more 'tsunami waves' to Voyager 1](#). Researchers monitoring the probe reported that it experienced a shock wave due to a burst from the sun approximately a year earlier, confirming that the probe is in interstellar space. And finally, [Hubble sees a spiral bridge of young stars between two ancient galaxies](#)—astronomers with the project report the discovery of a 100,000-light-year-long structure with a mysterious origin.

It was a pretty big week for researchers looking to make better batteries, too, as one team announced [sand-based lithium ion batteries that outperform standard batteries by three times](#), while other [engineering researchers developed a next-generation battery](#)—a team at the University of Alberta described their research that involves using carbon nanomaterials to provide better power options to consumers. The hope is that soon we will all have batteries that charge faster and last longer than the lithium-ion based batteries of today.

Also last week, a team of researchers tried to explain [how antioxidants can accelerate cancers, and why they don't protect against them](#)—a number of clinical trials have dashed the hopes of health conscious individuals who have looked to antioxidants as a way to live longer, healthier lives. Now they have some idea why it hasn't worked.

In the really cool innovations department, [an MIT finger device reads to](#)

[the blind in real time](#). It fits on the end of a finger and as the finger moves over printed words on a page, the device reads out loud what is written giving those who cannot see the ability to read standard books, magazines, menus, etc. Might be helpful also for older people whose vision isn't what it once was.

And finally, in a bit of disturbing news, [research finds an association between certain pain relievers and heart attack](#). A team at the University of Florida found that post-menopausal women taking NSAIDs (or non-steroidal [anti inflammatory drugs](#)) had an elevated risk of having a stroke or [heart attack](#). Yikes.

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