

Best of Last Week – Evidence of matter-matter coupling, no safe level for alcohol and dehydration impact on the brain

August 27 2018, by Bob Yirka

Rice University scientists observed Dicke cooperativity in a magnetic crystal in which two types of spins, in iron (blue arrows) and erbium (red arrows), interacted with each other. The iron spins were excited to form a wave-like object called a spin wave; the erbium spins precessing in a magnetic field (B) behaved like two-level atoms. Credit: Xinwei Li

It was a good week for physics as an international team of researchers announced that they had [found evidence of matter-matter coupling](#), which they noted could help advance the understanding of spintronics and quantum magnetism. And a team at MIT reported that they had used [light from ancient quasars to confirm the idea of quantum entanglement](#)—they used light emitted billions of years ago to measure entangled photons.

In space news, a team with members from Canada and the U.S. discovered that [a new kind of aurora is not an aurora at all](#)—photographers alerted scientists to the thin purple and white strips in the sky two years ago. And another team with members from several institutions in the U.S. made headlines when they announced that they had [confirmed the existence of ice at the moon's poles](#).

In technology news, a team at UC Davis announced that they had [used machine learning for cross-lingual and cross-platform rumor verification](#)—the system can be used to verify [news reports](#) made by online media sites by comparing them actual reporting by other news sites. And a team at North Carolina State University announced that they had compiled [a new database of executable Python code snippets on GitHub](#)—making it easier for programmers to find code that they can actually execute on the popular programming site.

In other news, a team with members from the University of Kansas and Oxford University conducted new research on fossil and extant bivalves and gastropods in the Atlantic Ocean, and in so doing, found evidence suggesting that [evolution might favor 'survival of the laziest.'](#) Also, a team led by Emmanuela Gakidou of the University of Washington made headlines around the globe when they announced that they had found that [there is no safe level of alcohol consumption](#). And a team with members from the University of Bristol and University of Bath developed [a timescale for the origin and evolution of all of life on Earth](#).

And finally, if you have found yourself struggling mentally after doing some exercise, you might be able to trace it back to how much water you drank—a team at Georgia Institute of Technology found that [dehydration alters human brain shape and activity and can slacken task performance](#).

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