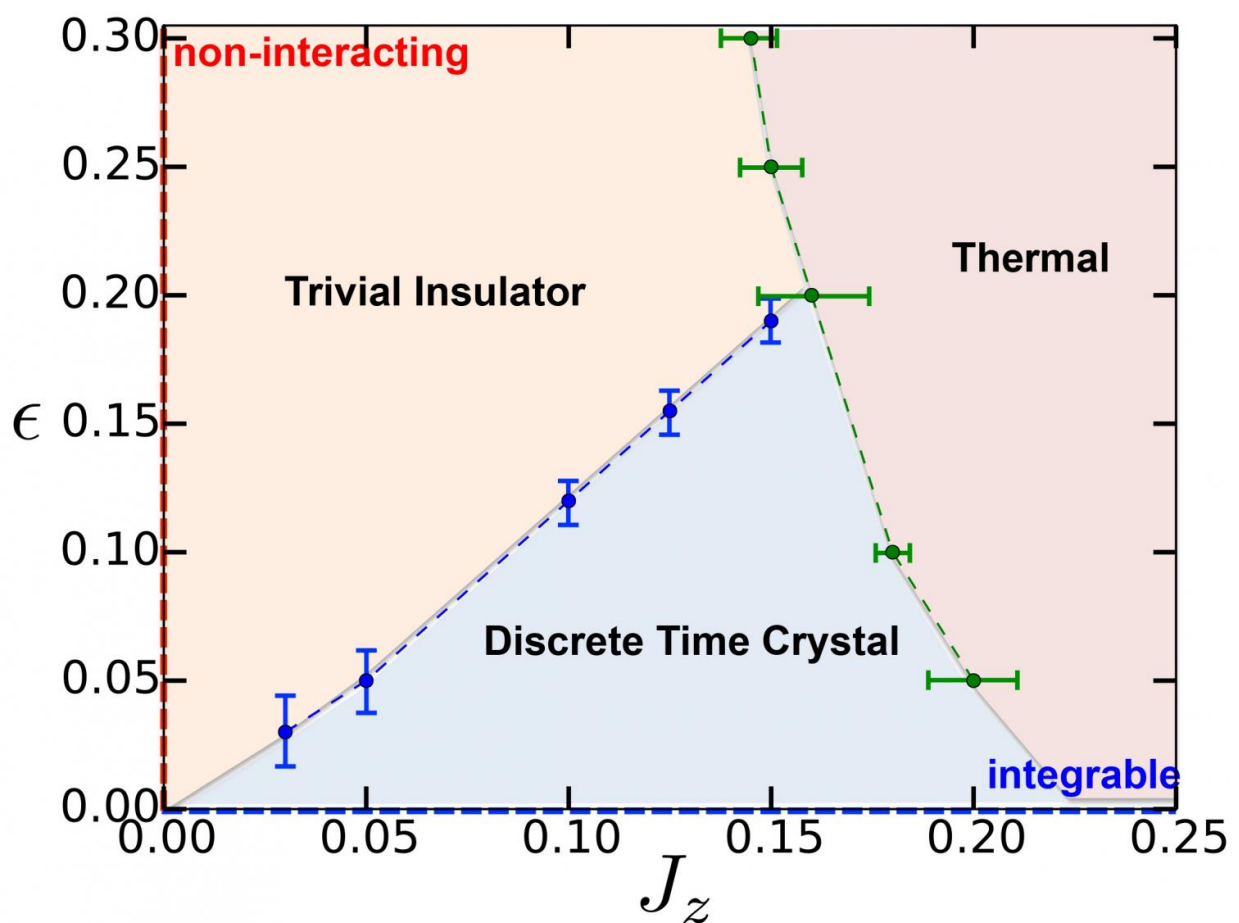


Best of Last Week – A new form of matter, a stable semisynthetic organism and protecting the body from inflammation

January 30 2017, by Bob Yirka



This phase diagram shows how changing the experimental parameters can 'melt' a time crystal into a normal insulator or heat up a time crystal to a high temperature thermal state. Credit: Norman Yao, UC Berkeley

(ScienceX)—It was a good week for physics as a team led by the University of California's Norman Yao unveiled [a new form of matter—time crystals](#)—the first examples of a non-equilibrium form of matter. Also, a combined team from the Lawrence Berkeley National Laboratory and the University of California found that [for a certain metal, electricity flows, but not heat](#). It's vanadium dioxide, and the team believes the discovery of its unique properties could lead to a wide range of new applications. And a team at Kansas State University applied for [a patent on a detonation technique to mass-produce graphene](#)—they claim graphene can be mass produced by filling a container with acetylene or ethylene gas and oxygen and then igniting it like a car cylinder with a spark plug. Also, a team at Harvard made headlines by showing that [metallic hydrogen, once theory, has become reality](#). Theory has also suggested a wide range of uses for it which may now be possible.

In technology news a combined team of security researchers from Lancaster University, Northwest University in China and the University of Bath found that [Android's Pattern Lock can be cracked within five attempts](#) using video and computer vision algorithm software. And a team at the University of Utah announced that they had developed '[smart glasses' that automatically focus on what the wearer sees](#)—possibly making bifocals and reading glasses obsolete in the near future.

In other news, a team at Oregon State University discovered [an ancient, alien-looking specimen that represents a rarity in the insect world—a new order](#). The 100-million-year-old, triangular headed insect was embedded in amber and is now currently the only member of the 32nd insect order. Also, a team at the Scripps Research Institute announced that they discovered [the brain hormone that triggers fat burning](#) in ring worms, which could, of course, help someday with weight loss in humans. And another team at the Scripps Research Institute announced that they had created [the first stable semisynthetic organism](#)—a bacterium with six genetic base pairs instead of the normal four.

And finally, if you are one of the millions across the planet who suffer from some form of chronic inflammation or bowel disorder, a team at Virginia Tech found a way to [help the body protect itself against inflammation and colon cancer](#) by changing the shape of a single protein.

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