

Warp Speed Travel – Theoretically Possible?

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From Han Solo in the Millennium Falcon to Captain Kirk and the Starship Enterprise, science fiction movies have made us believe that travel at-or-above the speed of light is possible. At least, we wish it were. Now, two physicists at Baylor University have thrilled the hearts of sci-fi fans around the world by arguing that warp speed travel is more plausible today than ever before.

According to Einstein, traveling at light speed is impossible, because it would require an infinite amount of energy to move an object that fast and... infinite amounts of energy are not available to us. However, there are always ways to get around tricky problems in theoretical physics. Dr. Gerald Cleaver, associate professor of physics at Baylor, and Dr. Richard Obousy, a Baylor post-doctoral student, have theorized that space itself could be manipulated to create a bubble that would move at velocities above light speed, and a spacecraft on that bubble could just go along for the ride – like a surfer riding a wave.

The key is the manipulation of the 11th dimension. Physicists have long theorized that there are 10 dimensions – length, width, height, and time, as well as six additional dimensions we can't see. While we cannot directly experience these other dimensions, particle physicists have detected evidences for them. According to the new M-Theory, these dimensions vibrate in an 11th dimension.

According to Cleaver and Obousy, the 11th dimension might be manipulated to create a bubble, and if space-time could be expanded behind the bubble, and contracted in front of the bubble, it would shoot through space faster than the speed of light.

"In modern string theory, dark energy [also called the cosmological constant] is the energy stored in empty space, where pairs of matter and anti-matter particles are spontaneously created and annihilated," said Dr. Cleaver. "When the cosmological constant is positive, dark energy is literally pushing space itself apart. When it is negative, then space is contracting. So by arranging the cosmological constant to be positive behind the ship and negative in front of the ship, it should be possible to travel distances that would ordinarily need faster-than-light speeds, even though the ship itself does not exceed the speed of light."

Physicists are quick to point out that this would technically not violate Einstein's faster-than-light rule. Still, it would take massive amounts of energy to accomplish this space-manipulation – as much energy as is found in the mass of Jupiter. Still, that's not an infinite amount of energy. In the future, physicists may figure out how to bring the amount of required energy down to something more manageable.

"When people first started calculating the amount of energy that would be required for a warp drive, it was more than what was contained in the entire known universe," said Dr. Obousy. "Later it was brought down to about the amount contained in a typical galaxy. Now, our work has brought it down to be only an amount equal to the mass of Jupiter. This gives us hope that it can be brought down much much further, eventually to the amount that can be generated by a star ship."

The nature of space-time and of the true essence of the universe is still a mystery to physicists. While nothing is known to be faster than light in a vacuum, there are evidences that the speed of light was once faster in the distant past. Light can now be manipulated to slow down and even stop. By splitting particles to their smallest sizes, it has been discovered that the universe is actually digital in nature. It is a mysterious, fascinating world the Creator has given us, and the more we discover, the more we cannot help be astonished at how much more we still have to learn.

Related Links:

- [Warp Speed Could One Day Become A Reality - Photonics Online](#)
- [Warp Factor 10! Star Trek Warp Drive In The Works - EE Times](#)
- [Traveling at the Speed of Light - Suite 101 Physics](#)
- [The Speed Of Light Slowing Down? - Koinonia House](#)
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