THE MUFON JOURNAL

SPACE WARP PROPULSION

THE EISENHOWER FAMILY LEGACY, PART 2
CrossTalk

THOUGHTS OF THE FUTURE
Perceptions

Space Warp Propulsion

Alcubierre Drive *a method of propulsion modifying space-time so that faster-than-light (FTL) travel might be achieved. Proposed by physicist Professor Miguel Alcubierre in 1994.*

fractal array *"The Engine" or "Drive." A V-shaped, manually-adjustable, electrically-powered device containing an interior, irregularly-surfaced array. "Fractal" refers to an extremely irregular line and/or surface; in this case, the interior surface of the V-shaped device. The array emits a VHF radio signal to simulate the natural phenomenon within a thunderstorm.*

radio frequency *the frequency at which radio waves propagate.*

space-time *any mathematical model that fuses the three dimensions of space and the one dimension of time into a single 4-dimensional continuum. Also called spacetime.*

space warp bubble *a wave that would cause the fabric of space-time ahead of a spacecraft to contract and the space-time behind it to expand. Analogous to an ocean wave.*

time dilation *change in time reference as velocity approaches light speed.*

VEM Drive *Variable Electromagnetic Drive. The name assigned to this space warp "engine."*

VHF *Very High Frequency (radio frequency).*

Background

In 1966, I saw the first episode of Star Trek to appear on television. For me, as a recent engineering graduate in aerospace propulsion, Star Trek was absolutely thrilling. This was particularly so when Captain Kirk commanded, "Warp 5, Scotty!" and suddenly a distorted star field surrounded the USS Enterprise, telling me that this was not a rocket ship running on chemical propellants—it was superluminal—faster than light (sometimes abbreviated FTL).

Now, decades later, I wonder almost every day when superluminal travel will be formally announced to the general public because I know that that work has been going on well before Star Trek ever hit the small screen. In an age when a single entrepreneur, Elon Musk, has promised to go to Mars and set up a colony 10 years before NASA's planned arrival, one wonders what other private enterprises are working on faster-than-light propulsion. One such organization—Space Warp Dynamics, LLC—and their invention are the subject of this article.

We know, based on Einstein's 1915 theory of general relativity, that space-time can be curved or folded like a fabric or a material. Matter or energy can bend space-time. If you didn't read my article on gravitational waves, please review it in the November 2017 issue of the MUFON Journal, "Gravitational Waves Discovered."

The Science

In 1994 the Mexican physicist Professor Miguel Alcubierre[1], National University of Mexico, proposed a theory of physics for a method for changing space-time by creating a wave that would cause the fabric of space-time ahead of a spacecraft to contract and the space-time behind it to expand. The spacecraft would then ride this wave inside a region of flat space, known as a warp bubble. The spacecraft would not move within this bubble, but instead be carried along as the region itself moves due the effect created by a spacecraft's "engine" or "drive." One might think of the space warp bubble as a surfboarder riding a (very exotic) ocean wave.
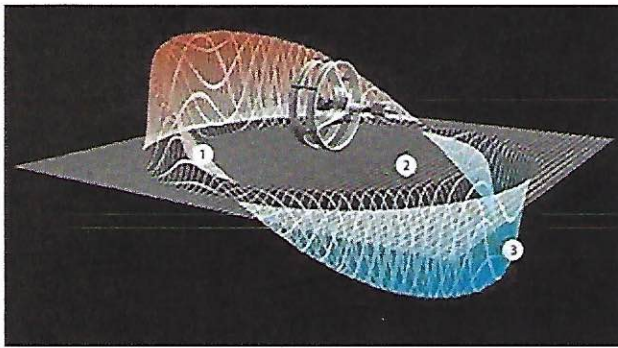
Space Warp Bubble[2]

In the illustration above we see a ring-shaped spacecraft moving forward (toward the right) inside the space warp bubble. Positive values (red) of the bubble [1] represent the expanded part of space-time and the negative values (blue) [3] represent that portion of space-time that is contracted. Analogously, the red region might be considered as a warp "hill" and the blue region a warp "well." The spacecraft would then ride the "wave" toward its destination. Flat space-time [2] is shown as the flat, gray area. Inside the bubble, the spacecraft and its passengers experience an undisturbed, zero gravity environment and are not affected by a time dilation. As the spacecraft moves along, the contraction balances with the expansion of space-time. Therefore, the rules of space-time and general relativity are not violated as would normally be understood.

In physics, it is what is known as the Alcubierre Warp Drive. "Drive" is simply a word that represents a means of propulsion, but one that does not use chemical propellants. On paper, it is a solution of the Einstein equations, specifically how space, time and energy interact. In this particular model of space-time, there are features that are reminiscent of the fictional "warp drive" or "hyperspace" from Star Trek, Star Wars and other popular sci-fi films and TV series. This would allow our spaceship to be transported in excess of the speed of light. This has been depicted by NASA as shown in the image below.
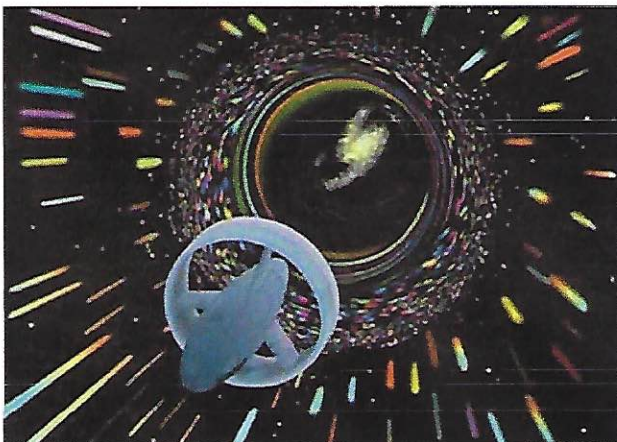
NASA's Spacecraft Concept Using Alcubierre Warp Drive[3]

The Experiment

Could an Alcubierre warp occur naturally in our terrestrial environment? Pilots have reported over the last 70 years that while flying in a thunderstorm, a displacement of from 100 miles to 300 miles occurred (i.e., the aircraft was physically transported) due to natural causes.[4] This could have been a natural occurrence of the Alcubierre warp bubble in terrestrial space. David Pares concluded that electric fields that occurred during overlapping thunderstorms could form an electromagnetic field that compressed the fabric of space-time. If this theory were correct, Pares concluded that a laboratory experiment should be capable of reproducing a warp bubble to validate the theory.

So how does one perform a laboratory experiment to simulate overlapping thunderstorms and a "mini-space warp" anyway? A small research and development company, Space Warp Dynamics, LLC, in Omaha, Nebraska, built what it calls a tri-pole fractal array and devised a test bed to reproduce the electromagnetic effects of a thunderstorm.[5] The fractal array is the "engine" that creates the local space warp bubble. Shown in the photographs that follow, the V-shaped array is small enough to be hand-held and the angle of the "V" can be adjusted manually. At differing angles of the "V" and the application of various power levels, wave compression theoretically takes place. Wave compression is one of two indications of the creation of a space warp bubble. Space Warp Dynamics has called its fractal array a Variable Electromagnetic Drive or "VEM Drive."


Fractal Array "Engine" [VEM Drive][6]

On the inner sides of the V-shaped device, there are a series of what it calls a "dual fractal pattern of tri-pole arrays." These pads are positioned along a slide bar to allow for optimal test conditions (see image on right). The pads are connected to a variable power supply. The arrays have been designed to match the natural VHF frequency range of a thunderstorm. Each pad has an irregular surface cut into it to simulate a natural surface (consequently the use of the word "fractal"). The materials used for the tri-pole (triple *electrical pole*) pads were *not* disclosed in the technical paper. Essentially, there is a tri-pole fractal array on each of the two, interior sides of the "V." Each side emits a

thunderstorm-level, signal frequency. Where the multiple electromagnetic fields cross, an amplified space-time compression is theoretically formed.

The Test Bed

To validate the warp drive theory, a test bed was constructed as shown in the diagram below. First, the fractal array is set at an initial test angle. A laser beam is then directed toward the array so that the beam passes through the array. The laser beam then passes through a magnifying optical lens and the resulting image is shown on a display screen. The diameter of the laser "bloom" (the multi-colored oval) is then measured and recorded. This is the "OFF" setting (i.e., no power applied). Next, the array is supplied with a specific electrical current (a small value on the order of 10 watts) and the image on the display screen is recorded. This is the "ON" setting. If a local space warp field is created with the "ON" setting, there will be a compression (i.e., contraction) of the bloom diameter. Test results show that the compression was achieved.
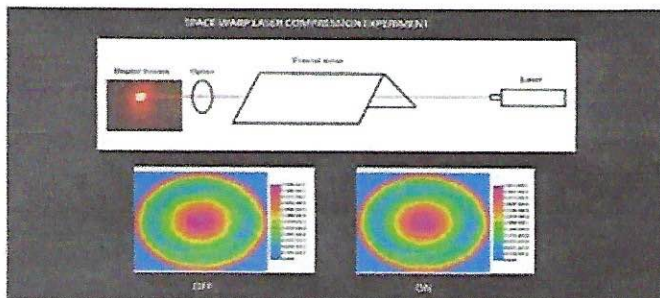
Space Warp Laser Compression Experiment[7]

The values of the settings are then changed to determine optimal compression results. Here, the angle of the fractal array is changed through a range of settings. The power applied to the fractal array is gradually increased to determine the net effective compression. The power range tested was between 0 watts and 1800 watts. Also, the locations of the pads on each side of the fractal array were also adjusted for maximum results. In the test shown below, for example, with the "OFF" setting there was no compression. With the "ON" setting, the diameter of the bloom was reduced by approximately 18%, indicating a positive space warp field induced by the application of power to the fractal array.

Further testing demonstrated that fractal arrays even under the application of very few watts provided a net pulling power. Using what is called a torsion bar experiment, a powered-up fractal array displaced a balanced weight by seven centimeters (7 cm) during a 45-second test. This provided not only evidence of a space warp field creation, but also the expected displacement due to a net pulling force of the warp bubble.

Technical Analysis
[for those readers with a technical bent]

Tests also show, using a range of power settings, that the ratio of power to pulling force had an exponential relationship. That is, with small increases in power to the array, the pulling force increased exponentially (i.e., non-linearly).

For example, the VEM Drive pulling force-to-power ratio is 0.19 newtons at 100 watts. The pulling force-to-power is 6.25 newtons at 1650 watts.[8] While the wattage increased by a factor of 16.5, pulling force-to-power ratio increased by 32.9!

For the test bed, only a 48-volt power supply was used, no chemical propellants were consumed and there were no moving parts. These, combined with the exponentially-increasing pulling force would indicate that the VEM Drive may prove to be revolutionary.

It should be noted that additional tests were conducted using other means to validate the test results found above. For example, one test involved the red shift of the laser beam (details available in the technical paper).

Recent Developments

A further experiment based on the above positive results is now in progress. The latest model will be powered up to 4000 watts of power. The immediate goal at Space Warp Dynamics is the creation and testing of a small UAV (unmanned aerial vehicle) called the Bluebird II (see image below). The UAV would be for a vertical lift test only. By configuring additional VEM Drives to a follow-on test vehicle, directional control would be achieved. Following successful results, a full-size Bluebird II, capable of carrying seven passengers, will be built based on this demonstrated technology (see Bluebird II illustration below).

Artist's Rendition of the Bluebird II UAV in a Hangar
*[Note the fractal array mounted on top][9]*

Directionally-controllable, Crewed Bluebird II [10]

The Significance

Experiments conducted to date by Space Warp Dynamics, LLC, have shown positive results for the controlled inducement of a space warp bubble using its VEM Drive. Increased power application to the VEM Drive results in exponentially increasing pulling power. Pares and Finley have suggested that with the 6.5 newton pulling force powered with 48 volts, travel to Mars might be achieved in 45 days. This would then truly be a breakthrough in space travel technology.

Dr. Hal Puthoff [11] has postulated that velocities of over 100 times the speed of light may be achievable. So, forget getting to Alpha Centauri in multiple decades using chemical rockets and multi-generational crews. Take my word for it, that just won't happen. In future NEWScience articles, we will explore other theories and applications of anti-gravity and interstellar propulsion. On a related note, one wonders why the spacecraft in two illustrations above are shown with a single- or double-ring design. Most readers will find this hard to believe, but in Star Trek universe, the first warp-capable starship was the USS Enterprise XCV-330. It was said to be the "... earliest vessel to be given starship status. It is the only 21st century ship to reach its destination, Alpha Centauri." [12].
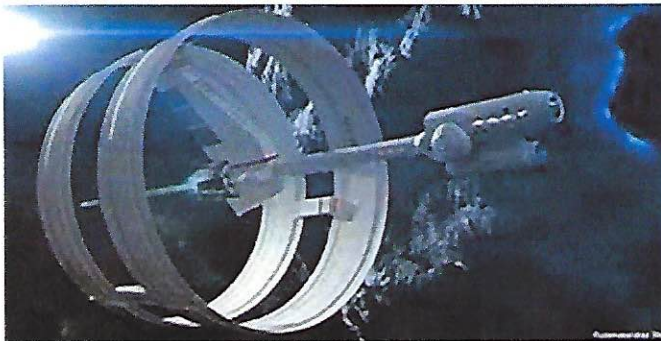
Star Trek's USS Enterprise XCV-330 [13]

At one time it was thought that warping space would require too much energy until NASA physicist Dr. Harold G. "Sonny" White [14] revealed that the amount of energy required could be reduced if the warp bubble were changed into a warp ring. Dr. White's theoretical ring model, however, assumed the use of "exotic" energy (anti-matter, zero point energy or "dark energy"). So . . . just how did those folks at Star Trek know this?

To obtain a digital copy of the 21-page, Space Warp Dynamics' abstract and technical paper, contact the author at www.2FSPress.com. Further information is available at http://www.spacewarpdynamicsllc.com/contact ⬤

Notes

1   Keller, T.L., *The Total Novice's Guide To UFOs*, 2FSPress, 2010, page 431 and digital edition, 2016.

2   Artist conception courtesy of Peter Turchin, www.socialevolutionforum.com

3   Artist conception courtesy of NASA

4   Pares, David and Kyle Finley, *The Artificial Inducement of a Local Space Warp Bubble Using a VEM Drive*, Space Warp Dynamics, LLC, Omaha, page 1. David Pares is the Nebraska MUFON State Director and Kyle Finley is the Nebraska MUFON Assistant State Director.

5   Ibid, page 16.

6   Ibid, page 12.

7   Ibid, page 3.

8   Ibid, page 18.

9   Ibid, page 20.

10 Courtesy of Space Warp Dynamics, LLC

11 Puthoff, H.E., "SETI, the Velocity-of-Light Limitation and the Alcubierre Warp Drive: An Integrating Overview," *Physics Essays*, March 1996, 9(1), March 1996. Dr. Puthoff is an executive member of the To The Stars Academy.

12 Fazekas, Andrew, *Star Trek: The Official Guide To Our Universe*, National Geographic, pages 192-193.

13 Ibid

14 https://en.wikipedia.org/wiki/Harold_G._White