
Anti-Gravity: The Holy Grail of the 21st Century

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A Primer on the Role of Electromagnetic, Electrostatic, and Torsion Fields in Anti-Gravity and Field-Effect Propulsion

Before visiting a University of Washington physics professor to talk about electrostatic propulsion, and hopefully anti-gravity, I realized: *Birds defy gravity. So do 747's for that matter. They apply the laws of physics and lift off the ground. That's anti-gravity, isn't it?* Yes, that's true, I suppose, in a metaphorical sense. But seagulls, jumbo jets and space crafts manifest anti-gravitation effects strictly speaking. What I want to address here is not the overcoming of gravity but the neutralizing of it.

Dr. Eugene Podkletnov, one of the foremost researchers in anti-gravity, and whose work is sought by NASA, Boeing and British Aerospace (now known as BAE Systems) describes the hunt for anti-gravity the greatest scientific quest of this century. He calls for an international effort, akin to the Manhattan Project that developed the atomic bomb, to conquer the secrets of anti-gravity, and usher in a new era of scientific understanding whose technological development will be at a scale so vast that the potential outcomes are merely hinted at by our previous achievements.

Just getting such a project off the ground will require unprecedented international cooperation, and public disclosure as well; the potentials are that vast, that scary, and that dangerous. Dr. Dan Marckus, noted British avionics expert, states in *The Hunt for Zero Point*, the seminal work-to-date on anti-gravity written by Jane's Defence Weekly aviation editor Nick Cook, that the secrets of anti-gravity in the wrong hands will make thermonuclear weapons look like firecrackers.

The secrecy surrounding anti-gravity research is phenomenal. Boeing refuses to publicly acknowledge any activity in anti-gravity development despite the fact that its competitor and sometime sub-contractor, British Aerospace (BAE Systems) is, the latter providing funds for four university research efforts as part of its Project Greenglow, one of which was a Podkletnov replication experiment headed by Dr. Clive Woods at the University of Sheffield,. Further, Nick Cook publicly, and privately to me in an email, states quite directly that George Muellner, former director of Boeing's ultra secret Phantom Works, claims Boeing sought the services of Dr. Podkletnov to unlock the secrets of his gravity-shielding research. Cook says that Muellner states Boeing was denied Podkletnov's services due to the objections of Russian officialdom, which the Russian-born Podkletnov must pay attention to, apparently, despite the fact that he works in Tempere, Finland. Dr. Podkletnov, wisely perhaps, chooses not to clarify these particulars despite our several emails.

Perhaps Boeing can deny any activity on anti-gravity because NASA is doing its own research, and as a prime contractor to NASA, such as by running the Space Shuttle Program, Boeing probably knows what NASA knows. NASA spent \$600,000 recently in its Breakthrough Propulsion Physics program (BPP) to purchase Podkletnov replication equipment. Inexplicably, that equipment sits in boxes in NASA's Marshall Research Center in Huntsville, AL, awaiting more funding; according to an email I received from NASA propulsion researcher, Ron Koczor.

But enough with this business; what do we know about anti-gravity?

The search for that answer has taken me to some exciting and obscure places in this world, like the Aeronautics and Astrophysics lab at the Seattle campus of the University of Washington. I called those folks because Nick Cook in *The Hunt for Zero Point*, mentions that UW received a NASA contract to study theories of inertia as part of its BPP program. *That's a good place to start*, I thought, but it took backtracking to BPP Project Director Marc Millis at NASA's Glenn Research Center in Cleveland to find Dr. John Cramer at the UW Physics Department. His mission was to confirm with Dr. James Woodward the latter's 1996 preliminary research into the loss of gravitational mass in a targeted piece of metal from oscillating capacitors. Although Woodward's initial data appeared encouraging, NASA's Millis told me that their funding dried up before completing their research. Furthermore, the entire BPP became unfunded in 2002 and now in 2003 has become a hazy, privatized version of its former NASA subset self.

However, UW is continuing related research, such as magnetically confined fusion energy generators and that, for me, by using electromagnetism to contain an inner field makes it a close cousin of anti-gravity and field-effect propulsion. I spoke with Professor Uri Shumlak who told me that he and other UW staff from the Department of Aeronautics and Astronautics, along with a bevy of their grad students, are building a prototype of a fusion generator called HIT, which stands for Helicity Injected Torus.

This donut ring-shaped torus encloses a roundish chamber. Within that chamber a vacuum is first created, and then a volume of hydrogen gas is introduced and heated to a few million degrees Celsius, which separates the electrons and protons from their atoms turning the whole stew into a quasi-neutral foam of plasma. Then the torus envelopes the plasma with a magnetic field to keep it away from the sides of the chamber enabling the plasma mass to stay hot, and

keep the rest of Seattle cool. (While I was standing next to his little eight foot long gizmo, Prof. Shumlak assured me there was no danger of a couple million degrees of heat escaping. The heat density of the plasma was "too low" for me to, well, break a sweat over. His quote was, "There's no more heat mass inside that chamber than what's contained in a cup of coffee." I sure hope you're right, Doc.)

Then, once the plasma field is contained, the magnetic field squeezes the plasma, fusing the nuclei of one hydrogen atom into another. As the hydrogen couples combine, a helium atom is created and a neutron is released, along with lots of energy in the form of heat. One day, such a generator will give us unlimited amounts of electricity, as the heat can produce electric voltage.

Lots of electrical power on the cheap the UW predicts; and the Department of Energy agrees, once the details of building reliable magnetic field generators are solved. What does magnetic fusion have to do with anti-gravity? Two things: first, magnets. Electromagnetism seems to be one of the major players in anti-gravity, particularly the use of electromagnetic fields to contain other fields, such as plasma fields in the HIT, or torsion fields, but more about that later. Secondly, the HIT works, or is about to. It's real and mainstream science embraces it, while anti-gravity is, well, a little more out there and reliable data is harder to obtain. So the technology of HIT lays a base that other research can build upon, such as not only containing other fields, but also building field effect propulsion systems, the most elementary of which is electrostatic propulsion, and aspects of that are already being applied by NASA.

Electrostatic propulsion uses electrical fields differently than electromagnetism does. In EM a current flows and creates a field, while in electrostatic systems the current is static and a charge builds up a field, such as in a capacitor.

These theories are utilized on NASA's Deep Space I, a probe bound for the outer reaches of our solar system. On Deep Space I, the

propellant, a tankful of xenon gas, is excited electrostatically into positive ions. The engine has a negative charge at the exit end, so the charged xenon rushes out the tail pipe with a greater thrust than if it was just using conventional chemical propellants. In fact, the electrostatic propulsion system on Deep Space I allows it to fly at 60,000 mph, or 10,000 mph faster than it would with a conventional rocket. In addition, only 82 kg of xenon is needed for its entire mission, so with its smaller mass and weight Deep Space I will fly along side its intended target, a comet, and drag race on equal footing while filming and conducting studies. Again, not anti-gravity per se, but electrically charging Deep Space I's fuel-field sets the stage for a closer look at electrostatic propulsion.

Taking that closer look is Tim Ventura and his fellow researchers at American Antigravity, an organization based in Kirkland, WA. Ventura and his crew use electrostatic asymmetrical capacitors to create a field that levitates objects, such as their small, kite-like "lifters." These lifters are very light, weighing only a few ounces, and have balsa wood struts that support the capacitors. When two capacitors of different size receive their share of a 30,000 volt charge, the lifter lifts- no motors or wings.

How, no one really knows in my judgment; and the phenomenon is replete with controversy and mystery. But as one who has seen a lifter fly, let me tell you what one looks like and what I saw when Tim Ventura's took off.

Tim has been building lifters since he was a kid and has perfected a four-foot, by-four-foot, by four foot triangular lifter which has flown so many missions in his garage that the silver aluminum foil has turned white. The thin, chopstick-like balsa wood ribs that hold the aluminum foil in place are joined every few inches by a vertical strut (much like a telephone pole on a HO model railroad set) which sticks up and secures the copper or stainless steel wire of the upper capacitor. The ribs are intersected every ten inches or so by the strut of an interior triangle, since the whole lifter is composed of interconnected isosceles triangles which give the necessary strength to the balsa wood frame. All told

there is about 30 linear feet of aluminum foil and a similar run of wire.

The lower and larger capacitor is a strip of aluminum foil stretched between the horizontal balsa wood struts. The second capacitor is a thin strip of 50 gauge wire mounted about one inch above the aluminum foil. As capacitors they store electrical charge but don't pass it on in a current.



Fig.1
Lifter

The negative lead goes to the lower aluminum foil and the positive lead is attached to the upper wire. The three corners of the lifter are tethered to the work table so that the electrical leads from the power source are not broken off in flight.

The power source kicks out 15,000 volts at 250 watts. Tim uses a voltage generator made by Information Unlimited, Inc, but before the current reaches the capacitors, the voltage is stepped up to 30,000 volts by Tim's homemade voltage multiplier stack. At full throttle the lifter is straining at the tethers, bending the balsa wood frame near the point of fracture.

Throw the switch and at around 17,500 volts the lifter begins to quiver in take-off. At the full power of 30,000 volts the lifter is roaring and a noticeable downward breeze is observed. Many physicists call it "ion wind," and say that it is how the lifters fly. But what exactly is ion wind, and can it be the cause of flight?

"Ion wind is the movement of ionized air particles," according to Ventura, "which flow downward according to electrical charge." Here's his theory:

The positively charged wire on the top part of the lifter steals electrons from the surrounding air, leaving the effected air molecules positively charged. These positively charged air molecules, or ions, then head downward toward the large source of negatively charged electrons generated by the aluminum foil. These air molecule ions are bigger and heavier than the electrons seeking them, so there is a net thrust downward pushing the whole lifter up. That's the theory, and frankly all I can do to verify the theory is to tell you what others tell me. Before I do that, though, let me tell you what I experienced standing next to a levitating lifter.

In flight the lifter emits a high whining, hissing buzz, and I could feel a good breeze coming up at me from the work table underneath the lifter. Also, standing next to the lifter but not touching it, the hair on the back of my head started to rise up in electrostatic-like fashion.



Fig.2
Lifter

To analyze the air currents Tim blew baby powder at the top of the lifter. The majority of the particulate cloud was drawn into the middle area of the lifter and then sucked downward. A kind of vortex was created at

times, for intermittently I could see a cloud forming into an organized column beneath the lifter and then spreading out in 360 degrees once it hit the work table surface.

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Is that ion wind? Well, there certainly was a breeze, and it sure felt like air, but how would I know if it was ionized? Something definitely sucked the baby powder down, but was it more than just regular air blowing past me? Again, I don't know.

Is the movement of wind why lifters fly, regardless of whether it is ionic or not, or is the wind just a by-product and not the propulsion? Could the capacitors be creating a field that neutralizes gravity, allowing the craft to levitate? Or are they creating some kind of new field that is localized and the surrounding ambient field pushes this "field-bubble" up, much like a helium balloon is pushed up by the surrounding heavier air trying to fill the emptier "field" of the lighter helium?

Ventura thinks at least two phenomena are at work. Ion wind is definitely one he feels, for the breeze is self-evident. However, he thinks a second effect is at work, too, and many agree with him. Most speculation concerns what is called the Biefeld-Brown effect, the "Brown" being T. Townsend Brown, whose name is well known in early quantum research and whose work is prominently discussed in Nick Cook's *The Hunt for Zero Point*.

The Biefeld-Brown effect, according to Ventura, is the theory that high voltage, air-gapped capacitors with different or asymmetrical capacities generate a net

directional force upwards from the larger element to the smaller element, which on the lifter is from the aluminum foil to the wire. This force then pushes against the ambient energy field of the surrounding area, perhaps pushing against a more rigid energy field of the zero point energy field.

Brown apparently made his case for these electromagnetic effects, receiving patents in the 1960's for his research. NASA's Dr. Jonathan Campbell at Marshall Research Center in Huntsville confirmed to me that he also, has received a patent recently for his research into the thrust effects of asymmetrical capacitors.

Editor: By the way, this patent is meaningless from the point of view of a prime claim. Before that there had been many publications on the subject.

A.V. Frolov.

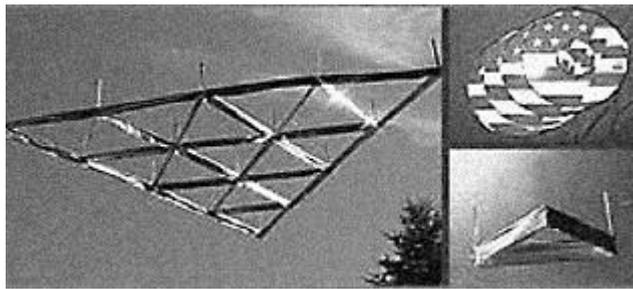


Fig.3
Lifter

However, prominent physicist Hal Puthoff, whose research is a broad swath across the fields of the 'new physics', featured in both *The Field* and *The Hunt for Zero Point*, and who was also the military's "Top Psychic" as the twelve-year director of the CIA's remote viewing squadron, has a different perspective: "I'm quite certain at this point that the so-called 'lifter' phenomena is just an electrostatic ion wind phenomena, not 'antigravity.'"

But Dr. John J. Rusek, Adjunct Professor of Aeronautics and Astronautics at both Purdue University and the United States Air Force Academy, says that "Initial findings of 'classroom' experiments with lifters show ionic wind to be way too small a factor, by three orders of magnitude." Dr. Rusek has formed a technological company, Swift

Enterprises, to continue this research and bring it to the level that is "presentable to the mainstream physics community."

Along these lines, Jean-Louis Naudin shows on his extensive web site, not only how to build a lifter, but also several photos of research into the ion wind issue. Naudin's team has wrapped test lifters in plastic yet they still produce anti-gravitational effects.

Others may have a clue to the second or even a third force at work. Researcher Fran De Aquino, professor of physics at Maranhao State University in Sao Luis, Brazil, is described in the literature as showing that "bubbles of localized space-time" can exist in variance to the surrounding fields. Anecdotal experience suggests that the lifters may be undergoing such space-time anomalies.

Editor: At this point we need to interrupt the author as he has already completely confused the reader. I would recommend referring to Thomas T. Brown's patent: USA patent #3,187,206, 1965.

Alexander V. Frolov

The Hunt for Zero Point states that NASA sought the services of Dr. Eugene Podkletnov, and although their replication research languishes, The Hunt claims that researcher Ning Li, of Huntsville, AL is pursuing this line of research as a private contractor to NASA.

Another Huntsville operation, Transdimensional Technologies, is exploring these multi-faceted phenomena as well, and its extensive web site shows it to be a frequent contractor to NASA, including research into "asymmetrical capacitive propulsion," and capacitor-based devices to test "ion wind" forces. Jeff Cameron, of Transdimensional, is said by Ventura to be "the father of the lifter," having developed them while exploring anomalous torsional effects of high energy lasers. The lasers twisted and at the time it was considered a nuisance. But the unknown forces at work later led Cameron to found Transdimensional, develop lifter technology to a commercial level, and subsequently patent many pieces of related technology. Unfortunately, I have been unable to reach Jeff

Cameron or anyone at Transdimensional for any kind of confirmation.

Nevertheless, how would gravitons be blocked, or gravity shielded?

Dr. Hal Puthoff says there are two ways of looking at it. First, one can look at the issue from a quantum point of view, that there is a particle exchange between the gravitons and something else, and the net effect is anti-gravity. The how's and why's of that are speculative, so Puthoff turns to a classical approach for answers. He prefers looking at "engineering the vacuum." To do that one must first look at the vacuum.

As I understand it we are all in the vacuum, everything is. The "vacuum" is the matrix that contains all matter and all energy. It is the engineering perspective of the zero point energy field, or the "*Field*" as popularized by Lynn McTaggart in her masterpiece *The Field*. Puthoff shared with me statements from fellow researcher Dr. T. D. Lee that state: "The vacuum is the seat of energetic particle and field fluctuations, and ... is the seat of space-time structure ... that encodes the distribution of matter and energy.... The vacuum is energetic in its own right."

Thus energy can be drawn from the field; and spacecraft can have "vacuum propulsion systems, or propellant-less propulsion," in other words, field effect propulsion.

At any rate, more and more physicists are thinking that the vacuum can give them a whole lotta oomph, enough to propel spacecraft; and when they learn how to corral it, a whole bevy of new phenomena may be encountered, including anti-gravity. This new potpourri of research is being called by many the "new physics." And although his approach is classical, Dr. Hal Puthoff seems to be sensing what's out there waiting to be discovered.

Puthoff's current research has been to explore "the perturbation of atomic or molecular ground states, hypothesized to be equilibrium states involving dynamic radiation/absorption exchange with the vacuum fluctuations. In this model atoms or molecules ... are expected to undergo energy shifts that

would alter the spectroscopic signatures of excitations involving the ground state." Puthoff says he's had no success so far with this approach, but his words remind me of De Aquino's speculation that objects lose mass as they absorb energy. Pull energy from the field around you and you lose weight. Bingo, lift-off. **But how does one pull energy from the field?**

Editor: Some solve this problem by means of the ether density changes, which are performed with the help of vortex longitudinal-wave technologies.

A.V. Frolov

Torsion fields might play a role here according to many, and the literature on anti-gravity is filled with the phrase, "torsional effects." But what exactly is a torsion field? "It has something to do with spin," Nick Cook told me on the phone. "You have a torsion field when you spin something. Add a little electromagnetism and you might have anti-gravity." That's the short-hand version of it and here's a deeper look.

Mike Wright, resident physics expert at BeyondTheOrdinary.Net web stream radio, told me this: "When forces create curvature (such as rotation) in more than two planes, a torsion field results. Not only does the object go around, but it goes around and 'down' or 'up', and the up/down movement is an additional acceleration in that dimension. EM and gravitational fields differ by having a magnitude of force and only one direction of movement.

"A tornado is a structure of air in air. A whirlpool is a structure of water in water. So, because more than two planes are involved, objects can be created from 'nothing'; that is to say that objects can be created from the medium of the environment, such as a tornado from two air masses of differing temperature."

So spin plus movement is the key. Again, Tim Ventura is on the hunt. He demonstrated to me **that spinning magnets will cancel out their magnetic fields sufficiently so that two magnets facing each other with like poles will not push each other away if one of the magnets is rotating**

perpendicular to the force of opposition. It's not anti-gravity, but it gets us closer to the heart of the matter.

Further, Russian physicists have been researching the torsional effects of both subatomic particle spin, and the loss of gravitational mass in planets from the angular momentum of their orbits. Spinning makes something happen, but what? Tornadoes and Mother Nature might have a few clues.

Tornadoes spin, in a sense, although no one is Oklahoma who has spent a night in a storm shelter during an F5 event would describe the tornadoes in the night sky as *spinning*. Nevertheless, tornadoes have anomalous effects that are legendary: blades of grass stuck into mirrors, a piece of straw embedded flawlessly into a tree trunk. How? It seems as if the laws of mass, gravity and inertia are melted as winds swirl at speeds up to 300 mph in an organized vortex pattern. Is this a clue to melting the pull of gravity?

Getting information to this question has not been easy. Many scientists claim not to have even heard of torsion fields, including particle physicists at major US universities. So, again I turn to Nick Cook and The Hunt for Zero Point

Dr. Dan Marckus says that if "you generate a torsion field of sufficient magnitude the theory says you can bend the four dimensions of space around the generator. The more torsion you generate the more space you perturb. When you bend space you also bend time."

Marckus continues, "If you dipped ...one of these whirlpools ... into the zero point energy field, the seething mass of latent energy that existed on an almost undetectable level all around us [in the field would] ... react in an almost magical way by directing that energy."

The torsion field, in effect, is "a pump, a 'coupling' device that could dip into, and then direct, energy out of the zero point energy field." "But," Marckus continues, "the vortex wasn't a three-dimensional phenomena or

even a four-dimensional one. It couldn't be. For a torsion field to be able to interact with gravity and electromagnetism it had to be endowed with attributes that went beyond the three dimensions of left, right, up and down, and the fourth-dimensional time field they inhabited; something that the theorists for convenience sake labeled a fifth dimension-hyperspace."

Cook concluded that the torsion fields "bind with gravity ... to produce a levitation effect - an antigravity effect," but "it wasn't doing so in the four dimensions of this world, but somewhere else." That somewhere else is hyperspace. **So how do we activate torsion fields and enter hyperspace?**

Dr. Eugene Podkletnov may have a clue.

Podkletnov, the Russian researcher working in Finland, has studied the gravity shielding effects of superconductors. Again, Nick Cook in The Hunt, relays vital information. Cook says Podkletnov claims, "If the superconductors are rotated considerably faster than 5,000 rpm ... the disc experiences so much weight loss that it actually takes off." Thus, torsion field creates levitation. I emailed Dr. Podkletnov to find out more about this issue. He replied: "[A] fast rotating object can, under certain conditions, cause the polarization of the volume that it occupies in space and around it. This polarization causes the gravitational effect as it modifies [the] local gravity field. The vortex of the polarized particles will create a vertical thrust with a certain force and spatial momentum. Some scientists call these polarized particles gravitons. The term graviton is an artificial one and at present we are not sure if it is a wave or a particle and what type of particle. Maybe it is a usual tachyon or a superluminal neutrino (a faster-than-light-particle). Polarization of the media means that the spins of electrons, protons, neutrons and of small subatomic particles that constitute the fabric of space or vacuum would be parallel. Then a kind of gravity well is formed and the objects tend to fall into this well. We observe this picture as an object rising to the sky. Polarization of the media (of space) causes some glow around the object as it acquires additional

energy and because of it, the glow around some objects is observed."

What I understand from Dr. Podkletnov is that gravity is the effect of spin -- the spin of all subjected particles, from the sub-atomic level and up being parallel; thus they are all aligned to fall into the gravity well of earth. And spinning objects, such as his superconducting discs, when influenced additionally by an electromagnetic field, will experience a shift in the spin of the sub-atomic and atomic elements. They will be turned and not be aligned in parallel. Thus, they are able to levitate.

But how to polarize the media and get things spinning? Enter Dr. Marcus Hollingshed, an enigmatic figure allegedly from Cambridge University. Dr. Hollingshed claims to have built a six-ringed toroidal coil antigravity device, which achieved great effect using rotating magnetic fields. In January 2003 he announced on the Internet that he has developed a 160kg vehicle able to lift in excess of 2000kg and that it has both horizontal and vertical drive features. His

device cannot only go up and down and sideways, but it can push things away and pull objects to it.

In addition, the field that the device purportedly generates is capable of being broadened and weakened, or narrowed and amplified in a lensing effect, with the field producing an absolute vacuum of 2.2m spherical diameter. Best of all, when it's cranked up the core of it goes invisible, although the term Dr. Hollingshed uses is that there is a "loss of reflected light." There are no reports of independent confirmation, and Nick Cook says he hasn't been invited to see it, so, he's skeptical.

Where does this leave us? Perhaps Dr. Podkletnov's words sum up our current situation. "Modern theoretical physics cannot give you the direct answer to your questions (levitation, torsion fields, etc.,) and a scientist who would agree to give you the answer cannot be regarded seriously, softly speaking. If you had asked Dr. Einstein if he were an expert on gravity, the answer would be NO. I can repeat his words: No, I am not a magician, yet; I am still learning."



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Gravity is the incremental slowing of time as we move closer to its source. If we imagine panes of glass stacked on top each other, one pane slightly denser than the one immediately above, a ray of light coming from above will constantly refract in a curved beam downward as it enters the stack. The same is true of a ray of light entering a gravity field. The analogy is not too far fetched because refraction is caused by a slowing of light in the denser medium. Of course, gravity affects material objects as well as light, but this is explained by every object traveling on a 'world line' in

spacetime. We can use light as in the glass example because light is its own world line.

Why the world lines of objects take the paths they do can best be understood by compressing our normal 3 dimensional space into 2 dimensions, length and height only. When we throw a stone into the air it rises and falls in a parabolic arc in these two space dimensions. That path in space is a complete mystery until we consider another dimension, time, a dimension we can imagine measured at a right angle to the plane of the 2 space

