

Electrogravitics - A Crash Course, Part 3

Practical engineering examples,
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3.1

Introduction:

In parts 1 & 2 of this paper, we developed a theory of the gravitational interaction that is fully consistent with widely accepted scientific principles. However, the true value of any scientific theory is measured by it's ability to guide engineering endeavors to a successful conclusion. In order to design a successful product, an engineer must have a firm grasp of underlying scientific principals that govern the operational process of the device. History is replete with examples where the inability to fully comprehend why some process or device worked, has resulted in poor functionality, malfunction, or worse, catastrophic failure. In part 3 of this paper, we shall examine two devices. Both devices are widely documented, and both exhibit anomalous gravitational behavior. Further, neither device has ever fulfilled the promise of it's invention. It is the authors opinion this failure was due to a flawed understanding of the scientific principals that govern operation of these devices.

3.2.1

Townsend Brown's electro-kinetic device:

In the annals of science, few apparatus have been more misunderstood than Townsend Brown's electro-kinetic-devices. A Google search for "Townsend Brown" lists over 3,000 web pages dedicated to the subject. Some believe the devices function by producing an "ionic wind". Others believe the devices function by tapping into some sort of "trans-dimensional vortex". Still others claim the work of Dr. Brown disproves the foundations of modern science. So many words, yet so little understanding...

3.2.2

Non-uniform fields revisited:

A careful examination of the Brown patents show that ALL of his devices make use of dielectric materials, immersed in a non-uniform electric field. In his 1965 patent (U.S. Pat. 3,187,206) Dr. Brown states as much: "The thrust produced by such a device is present if the electrostatic field gradient between the two electrodes is non-linear." Why is a non-uniform field required? Re-read section 2.1.1 and 2.1.2 of this paper.

3.2.3

Electric shielding revisited

Many researchers have constructed small prototype lifting bodies, based on derivatives of the asymmetrical capacitor first elaborated in the Brown patents. All of these prototypes weigh at most, 5 to 10 grams. Yet every researcher claims larger heavier models will soon be built. How soon? Not until these researchers understand the scientific principals discussed in sections 2.1.3 and 2.1.4 of this paper. In particular 2.1.4 places severe limits the lift produced by most dielectric materials. This is why the lifting body prototypes all use air as the dielectric medium. In Oxygen and Nitrogen a smaller proportion of the total electron compliment reside in the inner electron shells, and therefore a larger proportion is available for polarization by the applied non-uniform electric field. Of course these researchers could circumvent this problem by using pure Hydrogen as their dielectric material, however the author of this paper would not recommend it, for the obvious reasons...

One other avenue is available to overcome the electron shell shielding problem (2.1.4). They could use asymmetrical alternating electric fields. In his 1965 patent (U.S. Pat. 3,187,206) Dr. Brown states: "In applying potentials to these various embodiments, it has been found that the rate at which the potential is applied often influences the thrust." From the view point of dimensional analysis:

[Eq. 1]  = 

And

[Eq. 2]  = 

Where:

B = Magnetic field vector.

V = Velocity vector.

L = Length.

T = Time.

E = Electric field vector.

C = Velocity of light.

In other words an electric field, varying as the second derivative of time, induces a time varying magnetic field (eq.1), and when multiplied by a length, is equivalent to a moving magnetic field (eq2). Of course to produce an asymmetrical dielectric response, an asymmetrical

electric field is required, varying as the second derivative of time. Not an easy requirement to meet when this field must have a potential measured in tens of thousands of volts.

3.2.4

Summary of Brown electro-kinetic device:

Will Townsend Brown derived prototypes ever yield a practical levitation device? Not without a major improvement in dielectric materials. And now, thanks to the application of electrogravitics theory, we understand the reasons why.

3.3.1

John Searl's levitation disc:

In the early 1950's John Searl was employed as an electrician by a British utility company. Like many electricians of the era, he had no formal education in electrical engineering, other than his on-the-job training. Possessed by a curiosity for electrical phenomena, he decided to conduct his own experiments. In the course of his investigations, Searl noticed that a spinning metallic disc produced a weak DC electric potential, with the edge of the disc becoming negatively charged, and the center of the disc becoming positively charged. This same effect was noted by another Englishman, Michael Faraday, nearly a century earlier (Faraday homo-polar motor/generator). Searl concluded that electrons in the metallic disc were being thrown outward by the centrifugal force of the spinning disc, a conclusion missed by Faraday since the electron had not yet been discovered in the 1850s. Searl went on to reason that if the disc was segmented, this would prevent the electrons from "slipping" against the spin, thereby enhancing the effect. Believing that centrifugal force, when used in conjunction with conventional magnetic fields to produce electrical power, would result in a more efficient generator, Mr. Searl built a prototype.

He coupled his generator to a gasoline engine, and started it up. The generator worked, but not as intended. The first oddity he noticed was what appeared to be a large amount of static buildup on nearby objects, as evidenced by the smell of ozone, and the "crackling" sound of high voltage. Next, while still speeding up, the generator lifted off into the air (breaking the mechanical coupling to the gasoline engine), where it hovered for a while, surrounded by a "pink halo". Shortly thereafter, while still spinning, the generator literally threw itself into the sky, never to be seen again.

3.3.2

Macroscopic atoms:

Without realizing it, John Searl had built the electromechanical equivalent of a macroscopic atom, and he was very lucky to have survived the experience. How do I support these conclusions? Consider the geometry of electric charge distribution in his generator. A positive electrical charge in the center of the device, surrounded by spinning (orbiting) negative electrical charges. Is this not a good description of an atom? Next consider how the field electromagnets were powered. These were energized by the spinning segmented rotor. Therefore unlike a "conventional" atom where the quantity of electric charge is fixed, this generator/atom could never reach spin equilibrium, since any increase in electrical output was being used by the field electromagnets to produce still further increases in output. In other words, 100% positive feedback of output power to generator field input is an unstable configuration. And as everybody learned in August 1945, bad things happen when atoms fall apart...

3.3.3

Examination of Searl's generator:

Lets start by reviewing exactly how the generator works. Referring to figures 1 and 2 below, a segmented rotor disc (blue), driven by a rotating shaft (magenta), spins between the field poles (green) of electromagnets (yellow), producing an electric potential between the shaft (magenta) and a stationary collector ring (cyan). Since the magnetic field vector and velocity vector are at right angles to each other, once more we have a $\mathbf{B} \times \mathbf{V}$ induced electric field vector (1.3.1, 1.3.2), radial to the spin axis. However, this time the electric field vector exists on a conductive metallic object (the segmented rotor disc). As Faraday discovered, a metallic object will always polarize in such a way as to reduce the electric field inside the object to zero. In other words, the conduction electrons inside the rotor disc will migrate and pool at the outer edges of the rotor segments, until sufficient electrons have accumulated to exactly offset the electric field produced by $\mathbf{B} \times \mathbf{V}$, and this process will leave a pool of positively charged metallic ions at the center of the segmented rotor disc. These electrons, pooled at the ends of each rotor segment, act as the "pseudo-electrons" of our macroscopic atom, and the pool of metallic ions, located at the center of the rotor disc, act as our "pseudo-protons".

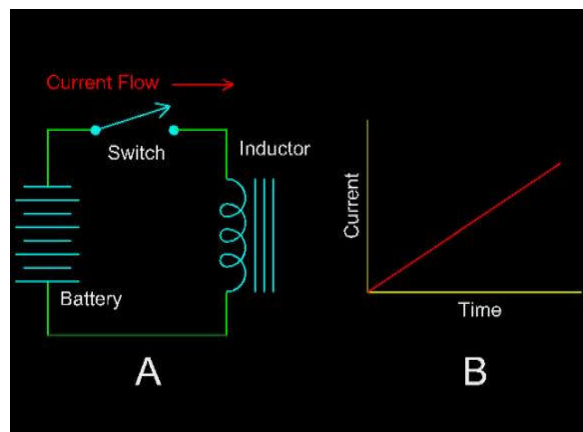
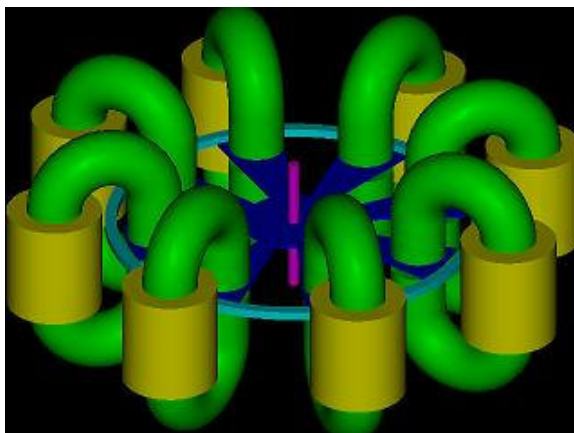


Figure 1 - Generator perspective view

Figure 2 - Generator plan view

3.3.4

Engineering a macroscopic atom:

In order to turn the generator into a practical levitation craft, a plethora of engineering problems must be overcome. Chief among these are:

1. Spin stability, so our macroscopic atom is not accidentally disrupted.
2. Flight control, for the obvious reasons.
3. Crew compartment, to protect against both environmental and electrodynamic hazards.
4. Aerodynamic streamlining to allow atmospheric flight without further complicating flight control

3.3.5

Crew compartment and aerodynamics:

Since the $\mathbf{B} \times \mathbf{V}$ induced electric field of our pseudo-electron can not be shielded by conventional means (2.1.4), it poses a considerable danger to crew members. The obvious solution is to place the crew compartment at the geometric center of our craft, with the segmented rotor disc spinning around the periphery of the compartment. This arrangement has three advantages. First, the $\mathbf{V}$ vector component of $\mathbf{B} \times \mathbf{V}$ is greatly reduced ($\mathbf{V}$ is zero at the geometric center of the disc). Second, since the electrons are pooled at the ends of the segmented rotor disc, and the $\mathbf{B}$ vector component of these electron pools follows the inverse square law with respect to distance, this arrangement produces the greatest $\mathbf{B}$ vector attenuation. Third, a centrally located compartment simplifies structural design and improves the aerodynamics of our craft. We further enhance $\mathbf{B}$ vector attenuation by turning our field poles inside out, thereby increasing the distance between the pseudo-electron and the crew compartment. This last change has an aerodynamic advantage as well, since it places the large field pole components near the center of our craft.

3.3.6

Flight control:

A natural atom is subject to gravitational attraction because it is polarized by the non-uniform electrogravitic field (2.1.5), and the force on the proton and electron while opposite, are no longer equal (2.1.2). Figure 3 shows a Hydrogen atom, viewed from the orbital plane, undergoing electrogravitic polarization.

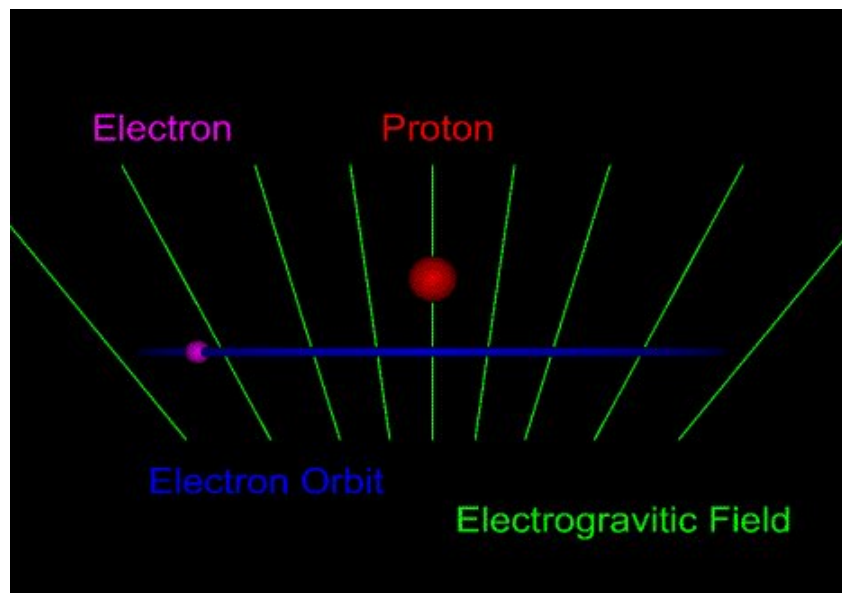


Figure 3 - Hydrogen atom undergoing electrogravitic polarization

As can be seen from this illustration, dielectric polarization moves the proton out of the orbital plane. Assume for a moment, that we could push the proton below the orbital plane, thereby causing a greater repulsive force on the proton, than attractive force on the electron. The result would be gravitational repulsion, instead of gravitational attraction. Some would call this phenomena "antigravity", however the proper term is dielectrogravitic repulsion. (as a side note, this is exactly what is happening to the dielectric material of Townsend Brown's electro-kinetic device) Now suppose we make our segmented rotor thicker in the center than at the edge. This would enable our pseudo-proton to move above or below the rotational plane (orbit) of our pseudo-electron, thereby allowing precise modulation of gravitational attraction or repulsion. Gravitational modulation is achieved by an electric current, flowing vertically through the center of the rotor disc.

The pseudo-proton is displaced in the opposite direction of conventional current flow. In effect our rotor disc becomes a three terminal device known as a transistor. In this case, a bipolar electrogravitic transistor (BET).

3.3.7

Spin stability:

In a conventional atom, orbital stability is guaranteed by the quantum equation:

[Eq. 3] 

Where:

M = Electron mass in Kg.

V = Orbital velocity.

R = Orbital radius.

n = Quantum number (1,2,3,...).

 = Pi (3.14...).

 = Plank's constant.

Our macroscopic atom enjoys no such restraint on it's behavior. Or to be more precise, unlike a conventional atom, the energy difference between MVR quanta (eq. 3) is minuscule compared to the total energy contained in our macroscopic atom. Therefore, in order to achieve spin stability, the total quantity of electric charge residing in our pseudo-electron, MUST remain constant. Failure to meet this condition will lead to uncontrolled rotor spin up, resulting in disruption of our macroscopic atom, accompanied by catastrophic release of the electromagnetic energy contained therein. Since the **B X V** field structure of our pseudo-electron can directly induce an electric current flow in the electromagnet field coils, it is not sufficient to merely throttle the rotor output power fed back to the electromagnet coils, that energizing the field poles. The electromagnetic coils them selves MUST be positioned is such a manner as to minimize direct induction of electric current by the **B X V** field structure of our pseudo-electron. Only then will direct throttling of feedback power from the rotor to the electromagnetic field coils be effective in maintaining spin stability.

3.3.8

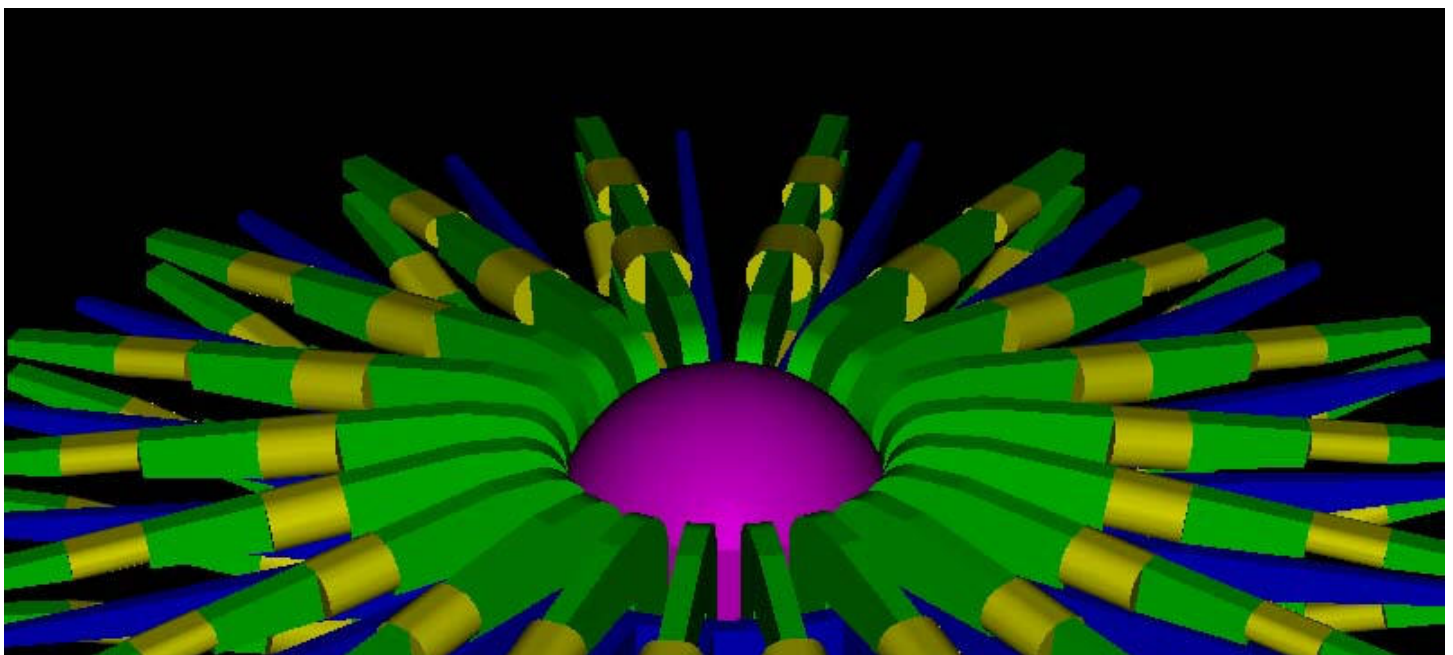
Finished prototype:

Figures 4, 5, and 6 illustrate the finished prototype, incorporating the design features discussed in 3.3.5, 3.3.6, and 3.3.7. Crew compartment is shown in magenta, field poles and electromagnets in green and yellow, segmented rotor in blue. (for clarity of illustration, the collector ring is omitted) One additional design feature, not discussed in preceding paragraphs is the use of odd/even configuration of rotor segments versus field poles (most apparent in figure 5). In this arrangement, the effective electrical rotation of our pseudo-electron becomes:

[Eq. 4] Electrical rotation = Field poles x Rotor segments x Mechanical rotation

Assume a mechanical rotation of 100 RPM for the rotor. Since the prototype has 20 field poles, and 21 rotor segments, the pseudo-electron rotates (orbits) at an astounding 42,000 RPM, thereby greatly enhancing the magnitude of our **B X V** induced electrogravitic field.

If after reviewing these illustrations, you conclude this prototype looks a lot like the proverbial flying saucer, just remember the first rule of engineering: "Form Follows Function"



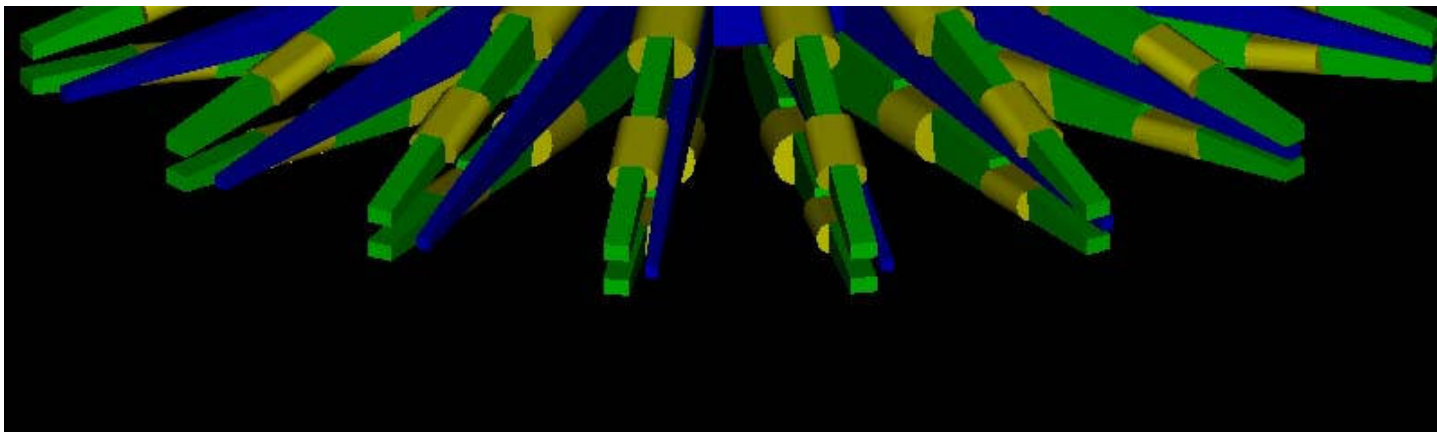


Figure 4 - Electrogravitic craft, perspective view.

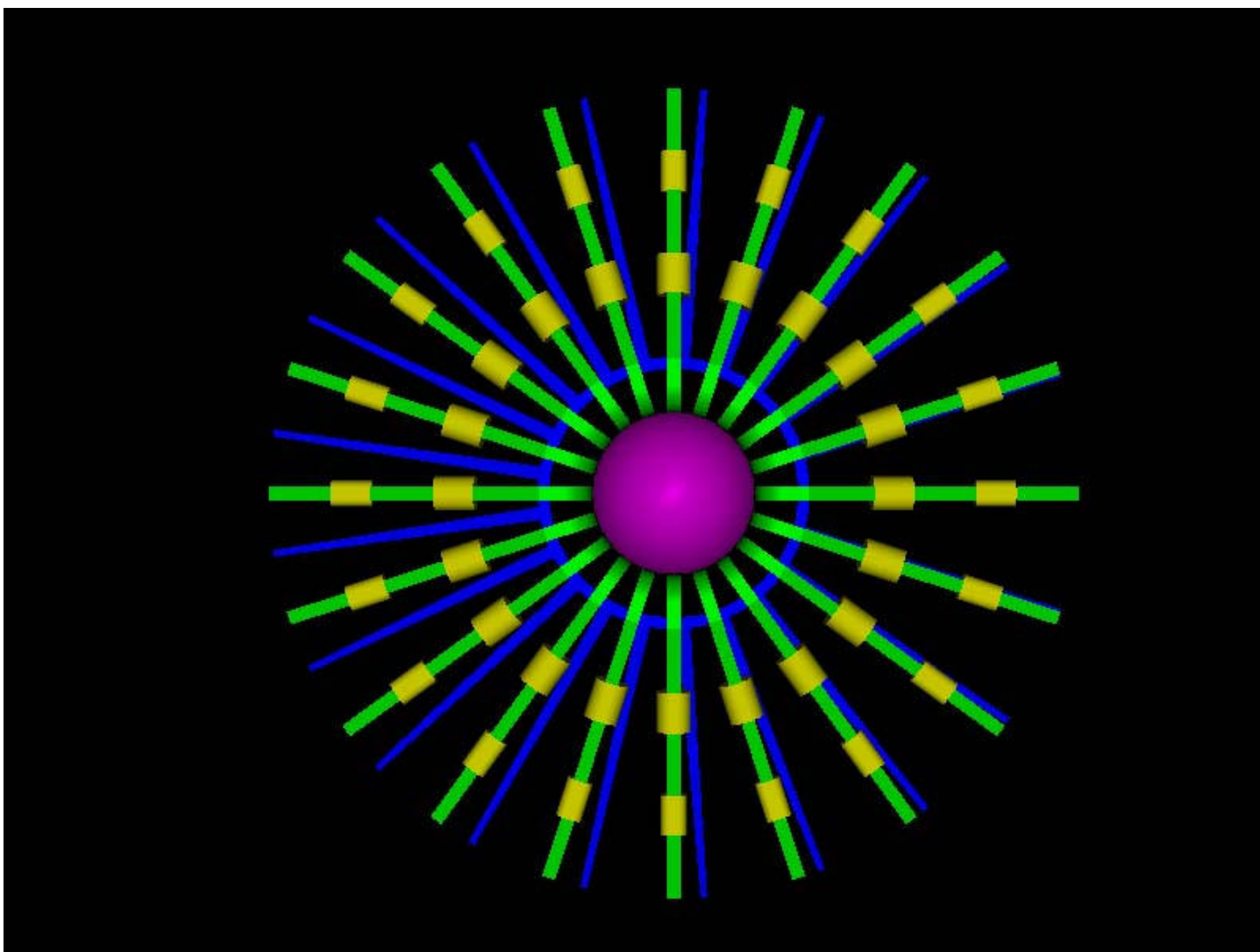
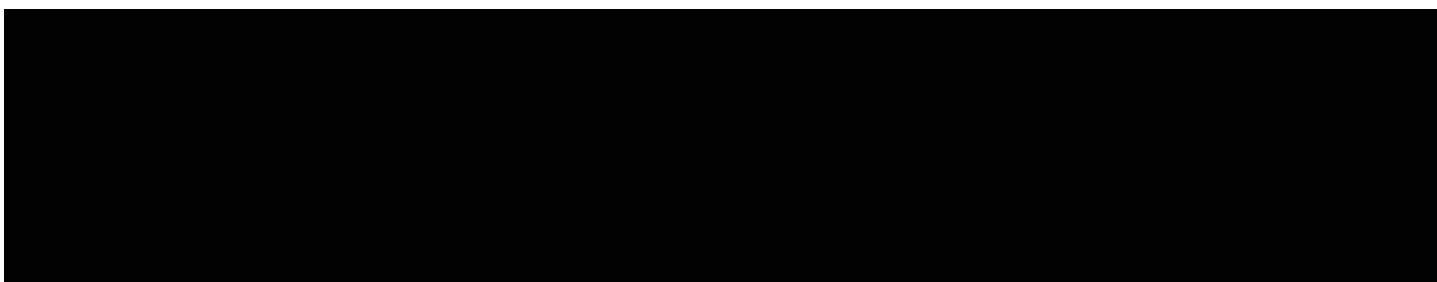


Figure 5 - Electrogravitic craft, plan view.



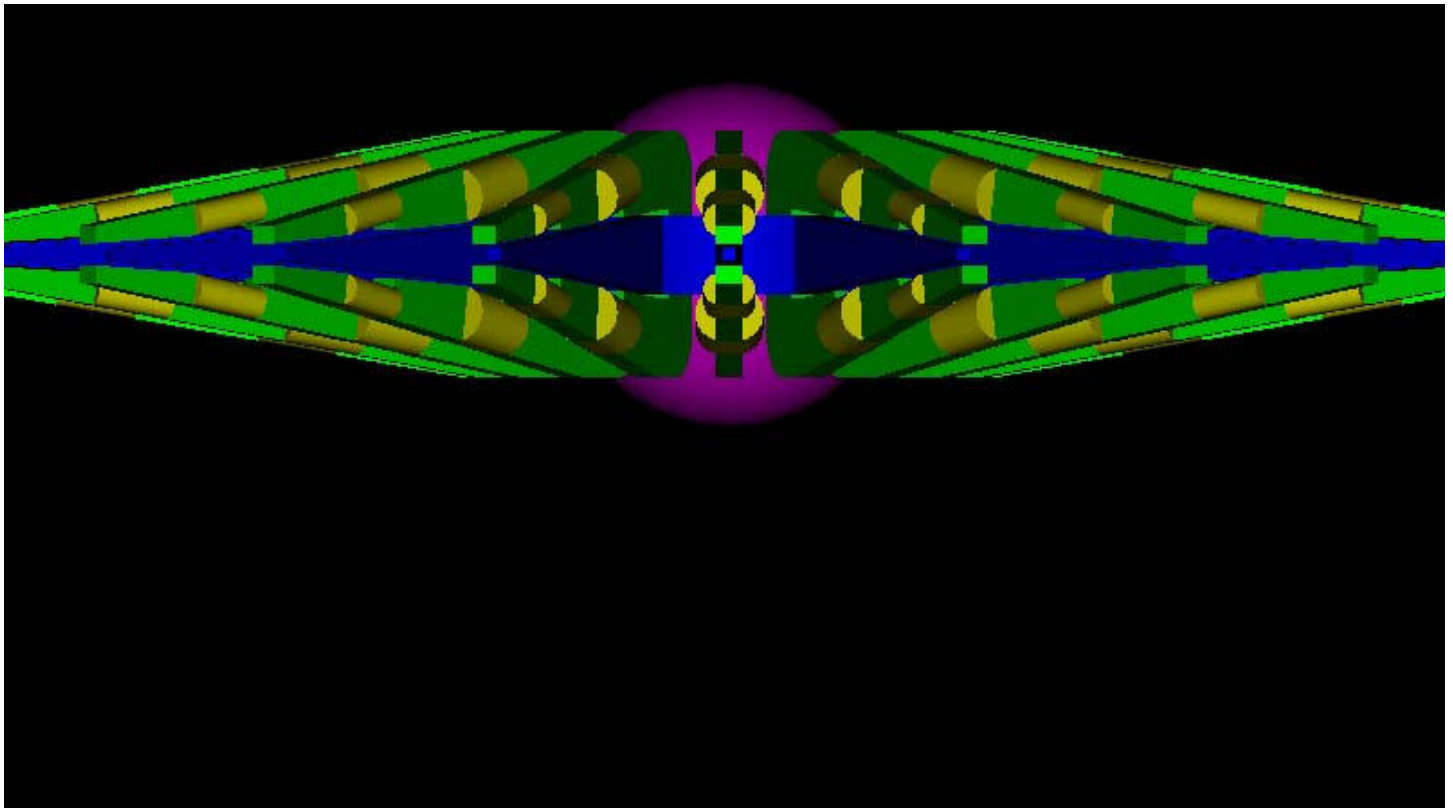


Figure 6 - Electrogravitic craft, elevation view.

3.3.9

Summary of Searl's generator:

50+ years have elapsed, since that fateful day when John Searl's generator departed for destinations unknown. According to his official website Mr. Searl (now Professor Searl) has produced more prototypes (many lost in a manner similar to his first generator). He has named the effect after himself, calling it "SEG" (Searl effect generator), and has developed a theory to explain the phenomena, based on geometry and called "The Law of the Squares". His website offers many books written by "Professor" Searl, also DVD's of his many lectures. In the half century since 1952, "Professor" Searl has done it all... Except produce a commercially viable levitation craft.

I'm not talking about building a 200 seat vehicle, making scheduled flights between New York and London. Nothing so grand is required. With people willing to pay tens of thousands of dollars for a 15 minute sub-orbital ride into space, a simple 2 seat version would be an instant money maker. Can't get FAA certification? Then operate from a small island nation in the Pacific or Caribbean. There are many cash starved nations that would welcome a venture of this type with open arms.

Will a Searl derived levitation craft ever become reality? Is a revolutionary breakthrough is needed? A new and hitherto unknown scientific principal required? In a word, no... Just the application of a comprehensive theory of electrogravitics, as I have so amply demonstrated herein.

3.4.1

Conclusions:

That an electrogravitic theory, based on widely accepted scientific principals, can be used to understand and engineer both the Brown electro-kinetic device, and the Searl generator (3.2.2, 3.2.3, 3.3.3, 3.3.5, 3.3.6, 3.3.7). That the current state of scientific disarray surrounding these devices, is directly attributable to researchers who are predisposed to assume an explanation for these effects lay outside the boundaries of conventional science (3.2.1, 3.3.9). In summary, science is not advanced by throwing conventional wisdom out the window at the very first sign of discrepancy in some newly discovered fact or effect. Rather, the quest of science is advanced by first attempting to stretch or expand our current understanding to encompass the new effect. Only after a considerable expenditure of effort in this direction, should the researcher even start to consider the new effect or phenomena may represent a hitherto unknown scientific principal. As we stand at the threshold of a new millennium, please remember, we also stand on the shoulders of scientific giants who came before us.