Motion and Induction of Gravity

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Presented here is a compelling connection between moving mass, gravity and the generation of tractor beams. Like the electromagnetic induction of moving magnets near a wire coil to create electric currents, or conversely, forcing electrons through wire to induce magnetic fields, accelerating mass will induce a gravito force. Five video demonstrations offer positive test results including a surge generator that emits gravitational-type waves. A tractor beam generator design is detailed.

I. Introduction

Here is evidence that gravitation can only occur between moving masses. Cosmologically speaking, there are no stationary objects. Since all perceivable mass is in galactic, solar, and planetary motion this does not rule out the observation of localized induction between moving objects.[2] This finding should be of no surprise: $g = ma$

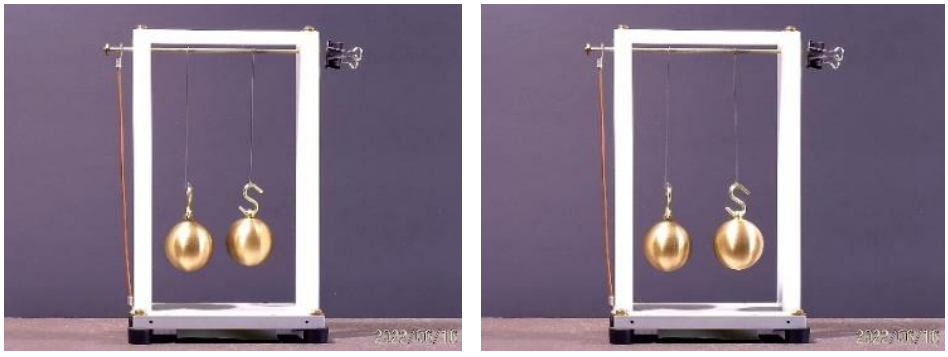
The following simple experiments reveal the induction of gravity upon a stationary mass by an adjacent moving mass. This finding is two-fold: Mass in motion creates an additional weak gravity field independent of Earth's attraction; and this *inertial-gravito* force can be channeled.

This paper is arranged into five video experiments: First, the *Brass Balls Pendulum* is observed with one ball stationary and the other set to swing. Then a section on a variety of different materials and sizes used as reactionary test objects are discussed in *Any Mass Will Do*. Thirdly, *Shunting Vibration and Diamagnetism* experiments are performed. Then, the *Neutralizing Air Currents* experiment is observed with one brass ball in a glass bottle. In the final experiment, rotating mass that is cyclically shifted into elliptical orbits creates repetitive surge that attracts discrete objects as will be seen in *Tractor Beams*.

II. Empirical Evidence

A. Detection

This discovery was the unexpected result of an effort to detect inertial radiation from one of the author's prototype space-drive engines. This radiation was predicted in 1962. [1] However, said emission was not detected at first but appeared as third and fourth derivative forces that added energy in the form of surge to the propulsive force of the engine itself. [2] Later experimentation proved both cases to be true as this paper will explore.



a) **b)**

Figure 1 Brass balls attract each other while one is in motion.

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[2] These findings do not contradict the Cavendish observation that static objects have weak gravitational attraction between them.

B. Brass Balls Pendulum

Pendulums are a poor substitute for neutralizing gravity but are the best tool we have here on Earth. Thus, these experiments were performed using the "closet rod" arrangement grounded with a copper buss wire to the aluminum baseplate ruling out the influence of static charge.[3] Referring to the inertial radiation detector in Fig. 1 above, each solid, pure brass ball is suspended with a silicon-bronze eyelet, linked with non-magnetic stainless-steel wire and hung by a brass "S" hook ruling out ferrous magnetic influence. Please observe the two-minute YouTube video *Brass Balls: Gravity is Caused by Motion*.[3] In later test runs, air currents were nullified with the use of aluminum plates.[4]

All hardware is non-ferrous negating magnetic influence, and in later experiments aluminum plates were used to rule out diamagnetic effects. The detector is comprised of a 9.53 mm thick baseplate of clear-anodized aluminum mounted on rubber feet with acetal uprights and top bar. The mounting screws and nuts are marine-grade silicon-brass. There is a steel paper clasp on the closet rod to show that no rotation of said rod occurs.

The distance between the centers of the brass balls is 5.72 cm in all the following two-ball experiments.

In Fig. 1a. and Fig. 1b. above the 244.0-gram reactive brass ball on the left is hereby referred to as M1 and the 244.0-gram actuator brass ball on the right will be designated as M2. Both balls are 3.81cm in diameter. When M2 is nudged, it will swing to and from the observer resulting in a subtle sideways motion induced upon M1. The sideways motion of M1 rules out frame wobble caused by the swing of M2. Other experiments of various configurations verify results, as will be discussed. The reactionary left M1 ball always swings side-to-side despite the swinging direction of the primary M2 ball signifying attraction towards M2.

Moreover, the initial motion of M2 will eventually change its swing into an elliptical pattern partially because of its attraction to the previously stationary ball M1 that was moving perpendicularly to the swing of M2. Conversely, swinging M1 first has the same effect on M2.

Though the reactionary ball M1 will eventually track with the swinging ball M2, it appears that the swinging actuator ball M2 is repelling M1, but M1 is actually displaying a delayed reaction, which is evidence of inertial lag as discussed in a previous paper.[4] The pendulum length is 0.127m resulting in a period of 0.715 seconds or 1.4 Hz.

C. Augmenting Gravity

The force of gravity between the stationary brass balls in Fig. 1 and Fig. 2a is calculated using Newton's formula in Eq. 1 as:

$$F = G\frac{m_1 m_2}{r^2}$$

$$= \frac{6.673 \times 10^{-11} \times\ 0.244\ \times 0.244}{0.05715^2}$$

$$= \frac{3.971 \times 10^{-12}}{3.266 \times 10^{-3}}$$

$$F = 1.216 \times 10^{-15}\ N$$

Equation 1

The average swing of three different published YouTube experiments is with a 0.127m pendulum length and a period of 0.715 seconds or 1.4 Hz. producing a M1 deflection of .015m from center. The resulting gravitational attraction of the reactive brass ball M1 with the nearby swinging actuator M2 can be calculated in Eq. 2 as:

$$F = \frac{3.971 \times 10^{-12}}{1.166 \times 10^{-4}}$$

$$= 3.405 \times 10^{-16}\ N$$

Equation 2

The difference between the results of Eq. 1 and Eq. 2 are shown below in Eq. 3:

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[3] *Brass Balls: Gravity is Caused by Motion* - https://www.youtube.com/watch?app=desktop&v=q-DjZoKh6F8

[4] It was suggested by several observers to perform these experiments in a vacuum chamber, but since air currents have been isolated with various segregation methods the results will be the same.

$$F = 1.216 \times 10^{-15} - 3.405 \times 10^{-16}$$

$$F = 8.755 \times 10^{-16}\ N$$

Equation 3

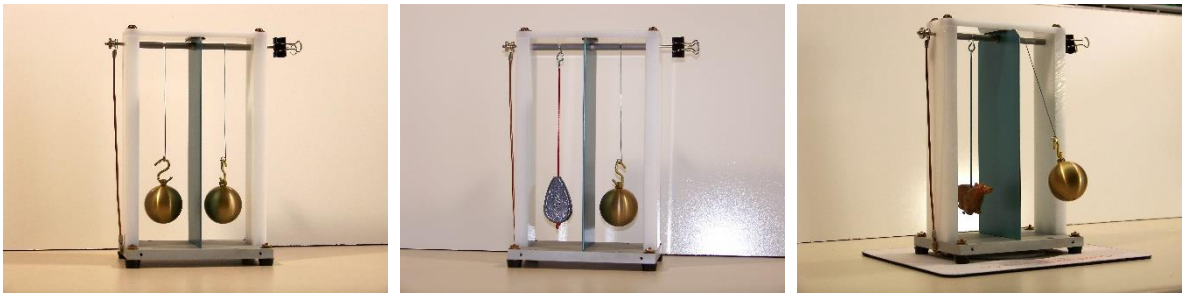
This is the additional g force acting upon M1 caused by the motion of M2 at 1.4 Hz. with just .05715m or 2.25 inches from ball center to ball center.

I. Any Mass Will Do

A. Material Does Not Matter

Figure 2a., 2b., and 2c. below display just a few of the various ways this experiment was conducted. A 1.588 mm thick, blue-anodized aluminum barrier was placed between the balls which limits air currents and further electrostatic influences as the cause of the reactionary motion. In Fig. 2a., is the basic experiment using two brass balls weighing 244 grams each on a stable platform. When ball M2 on the right is set to swing to and from the observer, its neighboring left ball M1 will start to swing perpendicularly left-to-right towards M2. See the YouTube demonstration *Motion and Induction of Gravity - Brass Balls isolated by an aluminum plate*.[5]

In Fig. 2b below, M1 is substituted with a 85.28-gram lead fishing sinker that responds in the same fashion. Figure 2c shows M1 as a 28.33-gram non-magnetic soapstone carving of a bear which also has the same gravito-motive effect when M2 is set to oscillation. The experiment shown In Fig. 2c. is bolted to a 1.0 kg. aluminum plate to stabilize.



a) **b)** **c)**

Figure 2 Experiments with electrostatic/air current barrier using M1 as brass; lead; then stone.

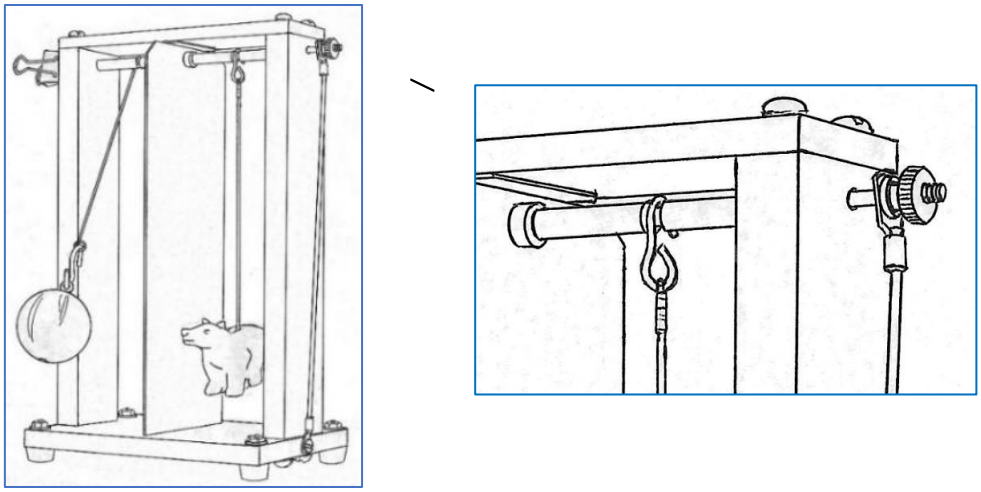
Figure 3a below is a reverse-image illustration of the experiment shown in Fig. 2c. above, displaying components to help rule out vibration, air currents, and friction, with details of how the experiment was set up: The brass ball pendulum bob on the far left is the actuator while the nonmagnetic soapstone bear pendulum bob on the right is the reactive component. The brass bob is suspended by a non-magnetic wire that has a lubricated Shepherds hook over the steel closet rod mounted across the top underside of the apparatus as detailed in Fig. 3b. The reactionary bear bob is suspended by a flexible nylon cord that helps to reduce vibratory influence from the swinging brass ball bob on the left. This closet rod journeys through free-spinning lubricated aluminum spacers that keep the wire and nylon cord centered but do not influence the said suspension components.

Referring to Fig. 3a below, the reactionary bear is shielded by a central, tightly mounted, blue-anodized aluminum separation plate that blocks any air currents which might produce false positive results. This barrier is wedged at its top edge against the bottom of the top cross section with a neoprene pad to help isolate vibration and to ensure that the barrier does not move.

On the right-hand side, a buss wire running down the length of the apparatus along with the separation plate in the center facilitates a metal Faraday-like cage that shunts out any possible electrostatic activity. This brass ball bob needs to swing strictly perpendicular to avoid wobbling. This is done by loosening the apparatus top plate and sliding the blue aluminum shield snug to the left in the drawing. This will restrict the brass ball bob wire pivot from deviating sideways while still freely swinging without dragging on the closet rod. The paper clasp attached to the closet rod on the upper left in Fig. 3a, shown below, is there to show that the closet rod does not rotate while the swinging bob is in motion. The composition of the reactive mass shown in the above experiments does not seem to matter.

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[5] *Motion and Induction of Gravity - Brass Balls isolated by an aluminum plate*.
https://www.youtube.com/watch?v=IOOCgmu0384&t=2s



a) b)

Figure 3 Detail of how the brass and stone experiment was performed.

B. Size Does Not Matter

In keeping with Galileo's principle where gravity is blind to differences in mass density, the next experiment was performed with a set of three different brass balls of varying sizes. Referring to the Three-Brass-Ball experiment shown in Fig. 4 below, from left to right, brass ball M1 is 72.12 grams; brass ball M2 is 178.79 grams; and brass ball M3 is 244 grams. A protective white polyethylene cushion was placed on the anodized aluminum base of the device to prevent impact should one or more brass balls drop. Magnetic, ferrous, electrostatic, and whispering windage influences have been completely ruled out in this and previous experiments. Brass, bronze, aluminum and acetal frame components with waxed nylon cords were used.



Figure 4 Ascending brass balls suspended by nylon cord.

In Fig. 4 above with all three brass balls in quiescence, from left to right are M1, M2, and M3. When brass ball M1 swings, it induces a gravito-motive force perpendicular to M2 which oscillates towards M3. The brass ball M3 then becomes attracted to M2 and the whole assemble dampens out and M2 continues to oscillate between the other two masses, lightly affecting the more massive M3. The smaller M1, though energetic, induces a perpendicular impulse to M2, which shares that energy with M3. Swing M1 then M2 and M3 are attracted to each other. No matter which ball is swung, the other two balls will synchronize and swing in tandem, and opposite, of the ball that was set into oscillation. Eventually all three balls dampen out and swing in unison. There is also an observable inertial lag [5] between the balls which was investigated in a previous paper.

Spinning any one of the three balls appears to have no effect on the other two balls – because the spinning ball is *not changing its position in space* relative to the other balls.

II. Shunting Vibration and Diamagnetism

Isolation

To completely rule out vibration and magnetism as reactionary factors, this experiment has been duplicated with the same two 244.0-gram brass balls shown in Fig. 1 but in isolated frames as shown in Fig. 5a and Fig. 5b below. Figure 5b is a video snapshot of the experiment. The black insulated Earth grounding wire is off to one side, and a 1.588 mm thick aluminum plate electrostatically and aerodynamically isolates the brass bobs. The left reactive M1 bob is suspended by a nylon cord to allow 360-degree motion. The pendulum pivot for the right actuator bob M2 uses white *Teflon* washers to reduce friction and the non-magnetic stainless-steel wire has a shepherd's hook that is also lightly oiled. Said baseplate is isolated from the benchtop with four 30-durometer *Sorbothane* bumper pads each with a load rating of 0.5 – 0.9 lbs. to absorb unwanted vibration from the swinging M2 bob. The baseplate also rests on a brown rubber, anti-static grounded bench mat. This experiment may be viewed at YouTube site *Motion Causes Gravity, Isolated Brass Ball Experiment*.[6]



a) **b)**

Figure 5 Isolated Frame Test

Diamagnetism is ruled out as affecting the experiment shown in Fig. 5a and Fig. 5b above as the aluminum plate isolating the two brass balls is paramagnetic, thus cancelling out diamagnetism.

III. Neutralizing Air Currents

Gravity in a Bottle

To further eliminate the influence of vibration and moving air currents as affecting the experiment displayed above The reactive brass ball M1 was placed in isolation by way of an open glass jar. See Fig. 6a and Fig. 6b below. Vibration has been eliminated by mounting the lines into a secured doorway resting on the main floor beam of the building structure where the experiment was performed. See YouTube video *Inductive Gravity: Long-Period Isolated Brass Ball Experiment.*[7] The longer lines of 1.22 m gave an increased period of oscillation to 2.21s or 0.451 Hz.



a) **b)**

Figure 6 Fully Isolated Reactive Brass Ball Experiment.

When time of the pendulum cycle is doubled, the g force is decreased by a factor of 10: The increased period takes a longer time for the reactive ball M1 to respond because the actuator ball M2 does not pass near M1 as frequently.

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[6] *Motion Causes Gravity, Isolated Brass Ball Experiment* - https://www.youtube.com/watch?v=yDIuom6fhB4

[7] Inductive Gravity: Long-Period Isolated Brass Ball Experiment - https://www.youtube.com/watch?v=vMoV4qANZFI

IV. Tractor Beams

A. Inertial Radiation

Whenever a displacement of mass occurs by shifting inertial frames, auxiliary energy is expended, the more sudden, the greater the energy. [6] This energy is either radiated as a gravity wave or as an inductive reactance of some kind. In the early 1960's extensive research on the phenomena of onset motion was conducted [7] and inertial radiation as a potential emanation as a result of surge was predicted in 1961:

> "Evidence for the existence of inertial radiation is not quite so plentiful. The concept of gravitational waves is not a new one, and in fact is implicit in the weak-field solutions of the Einstein General Field Equations, known for forty years. On the other hand, the type of gravitational-inertial radiation predicted by our theory is quite new since it is presumed to be the consequence of surge rather than simple acceleration. The magnitude of the Einstein radiation is predicted to be so small as to defy detection, but the radiation described here should be clearly observable under the right conditions." [8]

William O. Davis, PhD. surmised that a cyclic surge impulse device "…would strongly tend to confirm the existence of the (inertial) radiation." Refer to Eq. 4 below. *D* is the delay time constant and has units of mass/seconds typically defined as $F_{0cos}\ 2\pi ft$:

$$\int_{x_0}^{x_1} F dx \ = \left[\frac{Mv^2}{2}\right]_{t_2}^{t_1} + D\left[\frac{d}{dt}\left(\frac{Mv^2}{2}\right)\right]_{t_0}^{t_1} - DM\int_{t_0}^{t_1} a^2\, dt$$

Equation 4

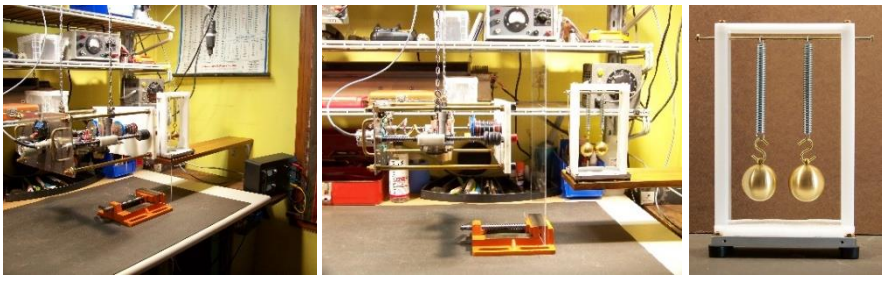
If this is so, then there must be a way to detect such radiation. Davis continues "… if radiation is generated it should be detectable and sooner or later a "Hertzian" experiment will have to be performed." [9]

B. Experimental Evidence

For the following experiments, inertial engine E-13A shown in Fig. 7a below, hangs from top of the laboratory bench. It is mechanically isolated from the detector which sits atop a wooden plank that is mounted directly to the wall of the laboratory. The engine's front-end points away from the detector and said detector is exposed to the rear of the engine. A Plexiglas shield isolates the detector to prevent air currents from the engine affecting said detector.

Figure 7b below shows the engine where its viewer-facing bronze rotor is in-line with the left brass detector ball. The mean distance between said brass ball and the bronze rotor is 0.381m (15 in). The right brass ball is a control to detect unwanted vibrations from the wall.

Figure 7c below shows a close-up of the *inertial radiation interference sensor* (IRIS), a dual mechanical resonating tank circuit. Each brass ball weighs 178.79gm. This inertial detector has to be configured as a quiescent mechanical oscillator, i.e. a mass on a spring at rest. Thus, any physical disturbance of the surrounding environment will cause IRIS to go unstable. In the following experiment one brass ball detects and the other is a control.



a) **b)** **c)**

Figure 7 Inertial radiation detection experiment.

In the *first* part of the experiment, only *one detector ball* is directly in-line with the rotors. Refer to the 3-minute YouTube video *Tractor Beams - Inertial Radiation Demo.*[8] As engine E-13 runs, it emits energy from its back affecting the detector as seen in the video: While the engines bow is following the surge it generates, its aft is creating

[8] Inertial Radiation Demo - https://www.youtube.com/watch?v=H3uP37vdQ4g

an inertial-gravito wake. Note only one of the balls responds. The non-responsive ball is not directly exposed to the spinning rotors but is aligned *between* the spinning rotors. Said ball is not moving showing vibration is ruled out.

In the *second* part of the experiment, *both detector balls* are in-line with the rotors as shown in Fig. 7b above and the rear control ball, being shielded by the left ball, shows no movement that could be caused by vibration: Results are the same in both experiments: It appears that a noticeable come along is a side effect of a Dean Drive inertial engines aft.

Inertial engine E-13 propels itself using surge, along with derivative forces from the acceleration of the engines rotors when their angular momentum is advanced every cycle beyond the usual circular path to form elliptical orbits. This force can clearly be witnessed in the slow-motion segment of the above-mentioned video. The engine produces forward momentum with a force shown in Eq. 5:

$$F_g = \frac{mv^2}{r} = 35.58\ N$$

Equation 5

as was measured in an earlier experiment. [10]

Inertial engine E-13's two rotors weigh 266.12 gm each and their total is 532.24 gm. The attraction between the one rotor and the detector ball must be calculated in Eq. 6 as a gravitational force of:

$$F = G\frac{m_1 m_2}{r^2}$$

$$F_g = \frac{6.673 \times 10^{-11} \times\ 0.179\ \times 0.266}{0.305^2}$$

$$= \frac{6.673 \times 10^{-11} \times 0.0476}{0.0930}$$

$$= 3.145\ x\ 10^{-7}\ N$$

Equation 6

Only one of two rotors is calculated above for this experiment. Also note that the angular momentum of the engine's rotors is operating with a third *and* fourth derivative additional force, so in effect their effective mass and force may be higher than what was calculated above.

C. Proposed Tractor Beam

The proposed tractor beam would use a single depleted uranium[9] rotor that would operate in the same manner as our impulse drive using an elliptically rotating mass. Refer to Fig. 8 below.

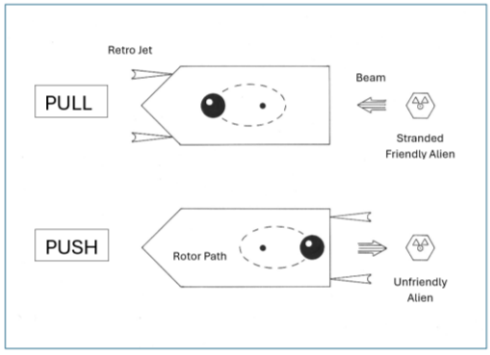
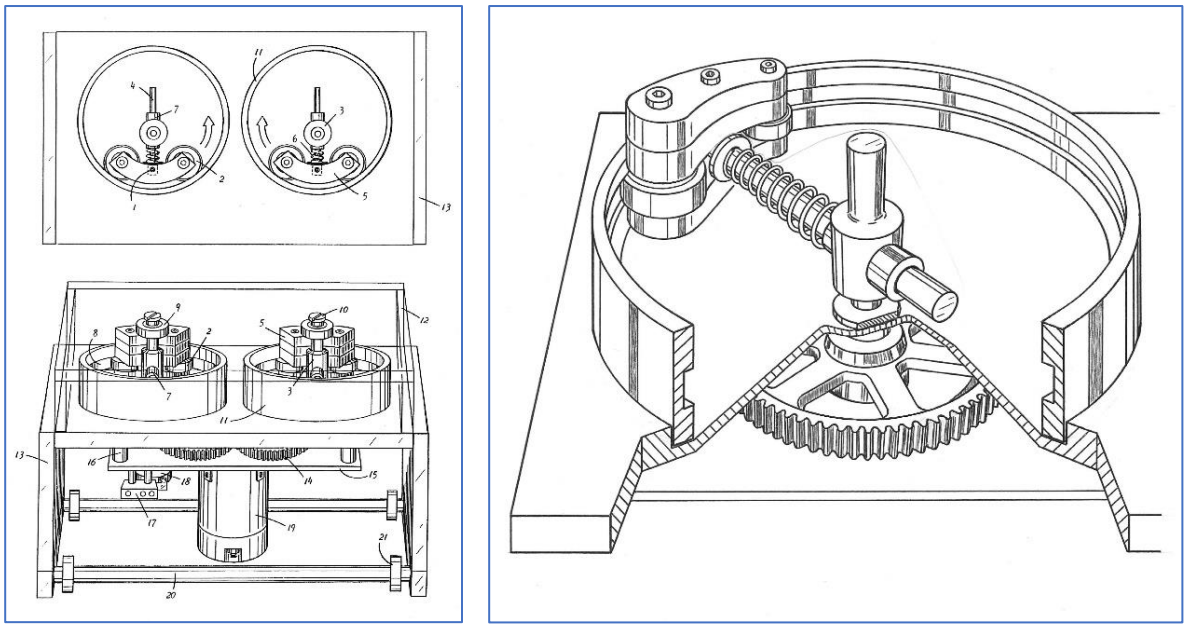


Figure 8 Proposed tractor beam operation

[9] Uranium has an atomic weight of 92, but cheaper lead at 82 is also more malleable.

The front end of the tractor would require a retro-jet to pause the drive from advancing so that the effect would be amplified by preventing the spacecraft from moving away from the intended target. To repel objects, the front of the tractor would be directed towards the target with the retro jet firing in the same direction: Simply rotate the system to face the target and reverse the retros to keep the spacecraft stationary. Basically, the retros would have to fire in the direction you want the target to go.



a) **b)**

Figure 9 How to well a high-speed elliptic eccentric rotor

It should be noted that the frequency to create the beam would require the massive rotor to spin at a high speed, for a single elliptic eccentric, just above Schumann resonance at 8 Hz. In order to best accomplish the higher mechanical frequency needed to create a tractor beam is to confine the rotor into a well as shown in Fig. 9 above. Figure 9a is a functional inertial engine, E-3, built by the author in 1989 and may be seen in action on our YouTube site.[10] Figure 9b details the rotor and well construction: The rotor rides on roller bearing wheels that track around a race turned on the inner side of the well itself. The rotor's armature also needs to pivot for freedom of engagement along the race of the well. Said pivot is a lubrication point. The perpendicular slip axle spring ensures the rotor does not jump the race. The axle may also have an open port at the top-end leading down as a tube to the oil-absorbing journal sleeve to allow for easy lubrication of the rotor armature. This port is threaded and can be seen with its screw cap as item 10 in Fig. 9a.

Because of the immense surge generated by an eccentric rotor, unless they are properly ganged, multiple rotors cannot be used to generate a tractor beam as each of the individual rotors will want to interact with their neighboring rotor. Therefor to generate a powerful tractor force, only a single rotor network should be used. Also, the welled eccentric rotor complex must be securely mounted with restrictive shock absorbers to prevent side wobble that could cause unnecessary vibration in the spacecraft.

To ensure that the tractor beam is fully directional, a way to focus the inertial-gravito force may have to be designed and employed. The current methods used to focus lasers, microwaves such as radar and for cooking, and other magnetic means do not show promise as of yet. The focusing device may have to employ other smaller rotors or vibrating masses to induce a more concentrated beam.

[10] https://www.youtube.com/watch?v=tg4KP8qdtR4 Observe in particular 8 minutes into the video clip.

Conclusions

According to the author's findings, a moving mass creates a gravitational effect on a nearby object. Since this appears to be the case, if all mass should stop moving in the localized galactic sense, then gravity would cease. And if so, since matter would have no direction, it would have to drift apart due to entropy. As such, gravity would automatically be reinstated because all matter is moving again: Matter must move for gravity to propagate.

Energy that emanates from mass in flux radiates as an inertial-gravito force: Thus, in space, it is clearly possible that a means may be created to remotely draw and tow a distant mass with focused repetitive surge.

Gravity... Lord of Light:
Matter vying for the same space,
Consciousness IS the space.
Gravity creates and destroys:
For every Big Bang
Black Holes start and end Kalpas.

From Quarks to Galaxies
Matter moves to define space.
Matter and space support each other
Like a dream devoid of substance,
Or a fragile bubble,
Held apart only by a breath.[11]

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Also, in memory of fellow researcher the late Craig A. "T" Herrington.
A thank you to Glen A. "Tony" Robertson for his advice.
And in recognition of the late William O. Davis, Ph. D

References

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[3] Glen A. "Tony" Robertson (NASA retired) suggestion. Mr. Robertson was a Senior Aerospace Technologist at Kepler Aerospace (2019-2022), tasked with the investigation of exotic propulsion methods. Mr. Robertson's assistance does not necessarily imply his agreement with the viewpoint or analytical conclusions of the author of this paper.
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[5] Ibid.
[6] S.M. Hampton, *Mechanical Impulse Drive*, Oct. 2025, pp. 2.
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[11] Author