

## SECTION 5

# Conceptual Applications of Gravitic Deflector Arrays

### OBJECTIVES OF GRAVITICS APPLICATIONS

The objective of gravitics is to modify the gravitational effect by controlling the U-wave flow that produces gravitation. The modifications to gravitation-causing U-wave flow that would appear to be potential objectives would include the following.

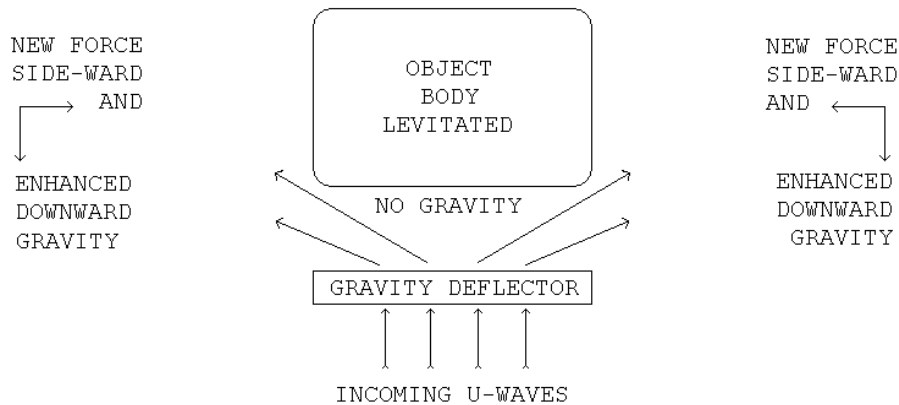
- Diverting the direction of flow of the gravitational field (the U-wave flow from the gravitating mass, e.g. the Earth) so that it does not act on an object body (e.g. an "air car") and that body consequently becomes free of gravitational attraction or experiences reduced gravitational attraction toward the gravitating mass (the Earth).
  - Depending on how effective were the diverting of the natural gravity away from the object body, this would have the effect of levitating or "floating" the body.
  - Full cancellation of natural gravitational action on the body would result in its accelerating upward under the effect of centrifugal force due to the Earth's rotation. That acceleration varies according to the latitude of the location on the Earth from on the order of  $3/1000$  of gravity to zero at the poles.
- Collecting additional flow of the gravitational field, flow that would otherwise miss encountering the object body, and re-directing it onto the object body so that the body becomes attracted by a new or additional gravitational force. That force might be directed:
  - In the same direction as that of the natural gravitation (i.e. "down").
  - In a direction different (e.g. "up" or "forward") from that of the natural gravitation.
  - Such effects could be used to control levitation or to provide lateral acceleration. In space one could cancel the gravitational attraction from the rear and enhance it from

the forward direction, "rear" and "forward" pertaining to the start and destination of travel.

As so far developed, the science of gravitics is only able to produce deflection of some significant portion of the natural upward-flowing / downward-attracting gravitational U-wave flow away from the vertical so that it is possible to generate reduced, possibly zero, gravitation in the region above such a deflector.

### Gravitic Levitation and Acceleration

Figure 5-1, below, shows an arrangement deflecting gravitational field away from an object body, levitating it. [The deflection also has the incidental effect of somewhat attracting objects surrounding the levitated object and subjecting those surrounding objects to added gravitation downward.]



*Figure 5-1*

*Natural Gravitation Deflected to Obtain Levitation*

### Energy

But such phenomena raise the interesting question, "Where does the energy come from?" In levitating an object, that is in causing it to simply float without motion, the problem of energy is not as obvious as with horizontal acceleration. When an object is accelerated its kinetic energy increases. That energy increase must come from some source. But, what is that source?

The energy comes from the flowing U-waves. When a mass is at an elevated location in a gravitational field we say that the mass has potential energy due to that location in the field. If whatever restraint keeping the mass elevated (for example a shelf on which it resides) is removed the mass falls. It accelerates downward in the gravitational field. Its potential energy is converted into kinetic energy.

However, speaking about that as if it is the mass that has the potential energy is not correct. It is the field that has the potential energy. Consider two masses identical except that one, Mass A, has a strong negative charge and the other, Mass B, is charge neutral. Let them both be located the same distance from a strongly positively charged object. In that situation Mass A has potential energy due to the electrostatic field. But Mass B has no such potential energy. The masses being identical the energy must reside in the field, not the bodies.

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Furthermore, electrostatic field and gravitational field are not "static". They both are due to the continuous flow of medium outward from its source, which is the cores of the particles that make up the atoms of matter. The particular "piece" of medium, that is the particular cycle of its oscillation, that encounters a mass at any moment then flows onward. The overall effect of the medium flow on the encountered mass is the successive effect of the successive different "pieces" of the medium flowing and encountering the mass. Each "piece" carries potential energy. The source of all of that potential energy is the original supply of medium in the cores (now somewhat depleted by the on-going outward flow of medium from the cores).

The acceleration and increase in kinetic energy obtained by diverting the gravitational field is "free", just as "free" as the acceleration and increase in kinetic energy obtained by falling off a cliff. However, in the case of deflected gravitation the "fall" can be indefinitely continuous; it is not required to climb back up to the top of the "cliff" to get more "free" falling down.

Gravitic Power Generation

Not only could "free" acceleration be obtained by appropriately manipulating the gravitational field, "free" power generation should be able to be so obtained. Some of the energy in the flowing U-wave stream can be extracted and converted to heat energy or electrical energy or whatever form is desired.

As Figure 5-1, above, illustrates, a gravity free region is created above the deflector. That means that the air above the deflector has no weight. The result is that the air above the array rises and air from the sides is drawn in. That air drawn in also becomes weightless and rises and the process continues.

Figure 5-2, below, depicts a gravitic electric generator based on that principle but using water rather than air.

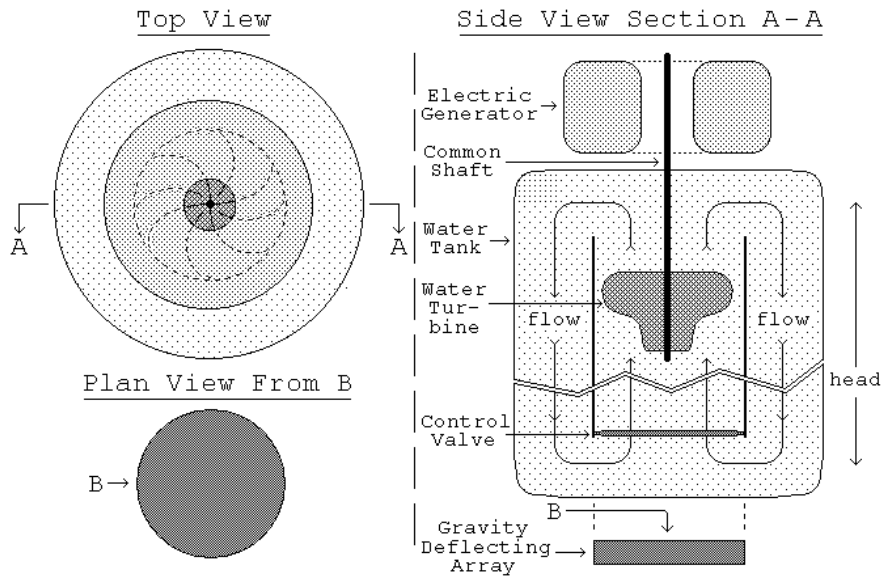


Figure 5-2,  
A Gravito-electric Power Generator

The device is very similar to an ordinary hydro-electric generator, which operates by using the potential energy of water at an elevation (called the head) converted to kinetic energy of the water's flow. The flow spins a water turbine which is on the same drive shaft (perhaps via a gear box) as an electric generator.

That type of arrangement and action can operate in air, or water, or any other working fluid. The circulating flow can power a wind turbine or a water turbine and the turbine can drive an electric generator. The overall effect is the extraction of electrical power from the gravitational field exactly equivalently to the action of a hydro-electric station except that the gravity-deflecting form of electrical station can be located wherever one wishes and requires no suitable river and massive dam.

The dimension "head" in Figure 5-2 is the head, the distance that the center of gravity of the fluid before falling is above its center of gravity after falling, and may be made to be of whatever reasonable size desired. Of course, there is a need to control the process. While that could be done by varying the gravitic action it might be easier to control the process by means of a valve that can vary the water flow continuously over the range from full flow to no flow.

A second form of gravito-electric power plant obtains the generation of rotary motion to drive the electric generator by using a flywheel. A massive wheel is schematically divided into two halves side by side horizontally. A gravitic deflector is placed into operation underneath one of the halves.

The result is that the part of the wheel above the deflector weighs less than its other half. The lighter half rises while the heavier descends producing a continuous rotation. That rotation drives the turbine that drives the electric generator.

A detailed design analysis of gravito-electric generating systems is at Appendix C, "Gravito-electric Generator Design and Calculations".

#### Gravitic Powered Vehicles

In principle, it is possible to develop designs of gravitic powered ocean vessels. Other design developments might lead to gravitic powered, air and land-based transportation systems.

#### Gravity Management Means for These Applications

The principle gravity management means developed in the preceding analysis is the Cubic Crystal Deflector which, by scattering gravitation-causing U-waves away from their natural upward direction, reduces their natural gravitational action on whatever mass is located above it.

- Any non-negligible reduction of natural gravitation should be sufficient to drive gravitic power generators so a Cubic Crystal Deflector, if practical at all, should be directly and successfully applicable for that purpose.
- For the objective of vehicle levitation such a device would only be successful if it could reduce natural gravitation to, or below, the

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amount of the Earth’s rotation-caused centrifugal acceleration at the vehicle’s latitude.

- For re-directing natural gravitation so as to act horizontally to accelerate a levitated vehicle some other gravitation management device would be needed.

Research and development are needed to achieve better gravitation control and to make possible levitation and upward acceleration that do not depend on the Earth’s rotation. They are also needed to make possible directed control of horizontal acceleration. Such control would also be needed to provide “artificial gravity” in space travel applications.

**GENERAL DESIGN CONSIDERATIONS AFFECTING GRAVITIC APPLICATIONS**

**Force and Acceleration**

Gravitation operates differently from all of the other actions, with which we are familiar. In the case of those other actions it is force which is applied. The result is acceleration according to Newton's 2nd Law of Motion per equation (5-1), below.

$$(5-1) \text{ Acceleration} = \frac{\text{Force}}{\text{Mass}}$$

That is: The force is the input and the result is an acceleration the amount of which decreases as the mass to which the force is applied is greater.

In the case of gravitation it is an acceleration which is imposed by the gravitational action. The gravitational action delivers whatever amount of force it takes to produce that acceleration. Per Newton's 2nd Law of Motion, that amount of force, required and delivered by the gravitational action to produce the acceleration that it produces, is as given in equation (5-2) below.

$$(5-2) \text{ Force} = \text{Mass} \times \text{Acceleration}$$

That is: The acceleration is the input and the gravitational action delivers force in the amount needed to produce that acceleration, which amount of force increases as the mass which it accelerates is greater.

In non-gravitational actions different forces may act on different parts of an overall assembly and the combined effect must be evaluated. One examines the forces that are acting to determine what the net force is and then determines the acceleration by dividing that net force by the overall mass.

Our natural experience does not include situations in which different gravitational actions are applied to different parts of an assembled object. Rather, in our natural experience, gravity is on the largest scale that we experience and everything that we encounter is affected by the same amount of gravity, the same gravitational acceleration.

But gravitic actions involve manipulating gravity so that some parts of an object experience different gravitation than other parts. The procedure for determining the overall net effect requires the following steps.

- Step 1. For each part of the object to which some particular gravitational acceleration is applied calculate the force resulting from equation (5-2).
- Step 2. With the force acting on each part so determined then evaluate the net overall force acting on the object.
- Step 3. Then calculate the net overall acceleration of the object from equation (5-1).

### Passengers and Cargo in Gravitic Transportation Vehicles

Another way in which dealing with gravitation is different from the situations that one is used to encountering is with a gravitationally levitated flying vehicle.

Fundamentally such a machine would consist of a passenger or cargo cabin with supporting structure and with devices arranged so that the overall net gravitational effect is cancelled or is partially reversed to give a desired acceleration upward. On the other hand, the human passengers and some kinds of cargo would react poorly to experiencing gravity acting in other than the normal surface-of-the-Earth manner.

Therefore the design should leave natural gravitation operating on the sensitive cargo/passenger cabin and apply sufficient managed gravitation to the rest of the vehicle so that the desired overall net vehicle levitation can be obtained while the passengers and sensitive cargo experience no different gravitation than at the Earth's surface except during initial ascent to an operating altitude.

That solution could be taken a step further. In a vehicle accelerating upward at  $0.3 \times g$  ( $g = \text{Earth surface normal gravitation, about } 9.8 \text{ meter/sec}^2$ ) in the Earth's normal gravitational field the passengers experience the sum of the vehicle acceleration and the natural gravitational acceleration, a total acceleration of  $1.3 \times g$ . That makes the passengers feel as if they are 30% heavier than normal. If during that ascent the natural gravitation in the passenger cabin were reduced to  $0.7 \times g$ , then the ascending passengers would feel only a net acceleration equivalent to natural gravity, that is about  $[0.7 \times g] + [0.3 \times g] = g$ .

### CONCLUSION

The most likely achievable gravitic effect at the present would be using a properly tilted cubic crystal to produce scattering of the gravitational U-wave flux sufficient to detectably and perhaps usefully reduce the natural gravitational attraction on an object above the cubic crystal.

Demonstration of detectable such scattering would be a major confirmation of the entire U-wave and gravitation theory of *The Origin and Its Meaning*.

Following demonstration of such effective scattering the next objective would be to demonstrate the extraction of energy from the gravitational field as presented with regard to the proposed gravito-electric generator.

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Success with gravito-electric energy generation would lead to numerous beneficial results:

- The end of the use of almost all fossil fuel methods of energy generation and their replacement with gravito-electric systems;
- The solving of the greenhouse effect cause of planetary climate change;
- Energy becoming much less expensive because of zero fuel cost;
- Such low cost energy making major ocean water desalination systems practical ending the planetary problems of limited fresh water supplies;
- Removal of the dangers of nuclear fission and nuclear fusion energy production;

and to some potential problems:

- Would the region above a gravito-electric power plant be dangerous for birds ?
- For airplanes ?
- For orbiting satellites ?

and even to some novelty:

- An entertainment cylinder in which gravity is so reduced that humans could fly if equipped with appropriate wings.

Of course, the transition to gravito-electric energy would involve major economic and social changes with the associated political conflicts and problems.

Achievement of the foregoing successes would call for major research and development to improve the methods and technology of gravitics. These would hopefully result in gravitic levitation and acceleration/deceleration of transportation devices for both people and freight. They might also be able to produce gravitic systems for interplanetary and intragalactic space travel. Gravitic systems might be able to provide shields for spacecraft by deflecting hazardous particles and objects.

Probably a major objective of such research would be to develop methods of controlled slowing of U-wave propagation so that the direction changing effects of ninety degree right prisms as depicted in Figure 1-4 and treated in equation (2-2) could be employed.