Anti – Gravitational Acceleration

> With the material universe exhibiting its many instances of balances of opposites an anti-gravitational effect is to be expected.

THE DEFLECTION CAUSES A REACTION BACK ON THE DEFLECTOR

Everything in nature is balanced.   Nature exhibits a general law of conservation that goes far beyond conservation of energy. For example:

- All positive charge is ultimately, somewhere, balanced by an equal amount of negative charge;

- Gravitational attraction takes place by a mass acting on another mass. The attractive force acting on each is the same in magnitude and opposite in direction; the forces balance;

- The "Big Bang" produced equal amounts of matter and anti-matter;

- Newton's Third Law: For every force there is an equal-but-opposite reaction force;

- Every North magnetic pole is matched by an equal strength South magnetic pole.

As with that balance, there is a reaction on the deflection-causing gravitation deflector, a reaction to its deflecting action, a balancing reaction.

DESCRIPTION OF THE ANTI-GRAVITATIONAL EFFECT

The gravitational field *Propagated Outward Flow* is an essentially unlimited capacity to produce acceleration. That capacity is what the outward propagating gravitational field *Propagated Outward Flow* continuously does; it accelerates any and every encountered particle of mass no matter how great or how many and no matter where located. But, the amount of gravitational acceleration does not depend on the mass of the encountered particle that is accelerated; rather, it is in an amount dependent only on the mass, M, of the gravitational *Flow* source and the distance, d, from that source to the accelerated mass, which two parameters determine the gravitational field strength at the accelerated mass.

$$\text{Gravitational Acceleration} = G \cdot M / d2$$

That *Flow* is what the gravitational deflector deflects.

The associated "force" is that acceleration multiplied by the mass that is accelerated, which can be whatever mass it happens to be. Thus for gravitation the "force" is inconsequential. No "force" is actually there except in our mental concept of the action. It is the acceleration that is the action.

The reaction on the deflector is an "equal but opposite" <u>acceleration of the deflector mechanism away from the source of the gravitational field *Flow*</u>; that is, it acts in the opposite direction from the direction, toward the source, of the acceleration that undeflected gravitation produces. The deflector experiences that reaction acceleration regardless of the mass of the deflector and no matter what additional mass may be attached to it, which attached mass is accelerated with the deflector.

That is because, again, gravitational field *Flow* accelerates any and every encountered particle of mass no matter how many and no matter where located, in amount independent of the mass accelerated, the amount dependent only on the gravitational field strength at the encountered mass.

Gravitational Acceleration = $^{G \cdot M}/_{d2}$

The direction of the reaction-produced acceleration [repulsion] is the opposite of the direction [attraction] of the before deflection *Flow*-produced acceleration. The magnitude of the reaction acceleration is the same as the magnitude of the deflection.

The ultimate result of the deflection action is the combination of reducing the gravitational attractive acceleration acting on the deflector [and whatever is attached to it] toward the gravitation source plus the introducing of a reactive repulsive acceleration of the deflector [and whatever is attached to it] in the direction away from the gravitation source.

Picturing the Earth with its gravitational field we let "vertical" and "upward" refer to the direction directly away from the gravitating "source". The various individual rays [so to speak] of gravitation, scattered by deflections, all are a combination of a horizontal component and a vertical component, each in various amounts for various rays. The horizontal components cancel out to null. The vertical components total effect after being deflected differs from the pre-deflection rays' vertical total effect and that difference is the overall amount, or magnitude, of deflection.

If every ray's vertical component were curved exactly 90º, i.e. from vertical to horizontal, the total effect of the vertical components after deflection would be zero. Then the overall amount of deflection would be 100% of the natural un-deflected gravitation and the reaction to the deflection would be acceleration equal in magnitude to the natural un-deflected gravitational acceleration but "repulsion" directed away from the "source" rather than "attraction" toward the "source".

The deflection process occurs throughout the length of the deflector crystal. Some rays of gravitational *Flow* are deflected by the first row of atoms of the deflector. Others are deflected by the second row, others the third, and so on. The total deflection is essentially spread linearly uniformly over all of the length of the deflecting crystal.

For the example of every ray's vertical component curved exactly *90º*, i.e. to the horizontal, that would happen linearly uniformly along the crystal length. The

result would be that the natural gravitational attraction on the deflector itself would be reduced to 50% of normal.

At the same time the reaction repulsive acceleration magnitude would be 100% of the natural gravitational attraction acceleration because of the overall 100% deflection.

The combined net effect on the deflector itself is then a net "repulsive" acceleration of the deflector of magnitude 100% of the natural pre-deflection attraction offset by the residual gravitational "attraction" on the deflector of magnitude 50% of the natural pre-deflection attraction for it, a net result of repulsion at 50%. The net repulsive acceleration experienced by the deflector would also be experienced by any mass attached to the deflector such as a spacecraft or a flying vehicle.

THE MECHANISM OF THE ANTI-GRAVITATIONAL ACCELERATION

One cannot simply rely on the principle that everything in nature is balanced to account for so dramatic an effect as the repulsive acceleration reaction to the deflection of gravitation – an actual anti-gravity. However, the mechanism producing the effect is simple and natural.

First, as presented in Section 5, natural gravitational acceleration is caused by the *Propagated Outward Flow* from a "source" particle acting on an "encountered" particle. That arriving *Flow*'s μ_0 and ε_0 (scalar quantities not vector and much inverse square reduced relative to their magnitude as originally propagated) combine with the μ_0 and ε_0 in the new outgoing propagation of the "encountered" center (full magnitude as in the *Flow* as originated at the "source"), the combined μ_0 sum and the combined ε_0 sum each being larger values than in the "encountered" particle's originating *Flow*. The result is that that "encountered" particle's new outward *Flow* toward the "source" is slowed relative to its natural otherwise speed per equation 5-2.

Described another way, the *Propagated Outward Flow* from the "source" particle arriving at the "encountered" particle creates a region of an additional increment of μ_0 and ε_0 directly adjacent to the "encountered" particle located on its side that faces the "source".

That increment adds to the natural amount of μ_0 and ε_0 in the natural *Propagated Outward Flow* there from the "encountered" particle causing the "encountered" particle's *Propagated Outward Flow* to be slowed per equation 5-2.

As illustrated in Figures 5-2 and 5-3 and their associated text that effect creates an imbalance in the "encountered" particle's outward momentum propagation and in the consequent reaction back on the "encountered" particle. The "encountered" particle experiences greater reaction to its own outward propagation on its side away from the "source" than on its side facing the "source" the result being acceleration toward the "source".

Second, in the action of the deflector, the components of the incoming vertical gravitational field *Propagated Outward Flow* that are curved away from the vertical by the deflector's atom's are by virtue of that deflection directed over the side of the atom opposite that facing the "source" of the gravitation as depicted schematically in Figure 9-1, below.
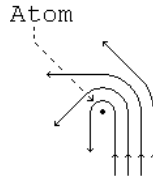
Figure 9-1

That increases the *Propagated Outward Flow* medium concentration on that side of the atom; that is it creates a region of an additional increment of μ_0 and ε_0 directly adjacent to the "encountered" particle but now located on the side of the "encountered" particle away from the "source" rather than the side facing the "source" as in the case of the original un-deflected gravitational *Flow*.

Just as with natural gravitation, that has the effect of reducing the encountered core's propagation in that vertically upward direction that of the increased *Propagated Outward Flow* concentration. That is, the presence *on the opposite side* of a particle of increased medium *Flow* concentration produces the same effect as does natural gravitation's concentration *on the facing side* of a center-of-oscillation, the effect being the same whether the *Flow* is incoming natural gravitation or deflected gravitational *Flow* passing over.

Natural, "attractive" gravitation produces acceleration in the direction of the side of the "encountered" particle where arriving Propagated Outward Flow medium increased the ambient medium μ_0 and ε_0 there slowing natural propagation there. Therefore, the magnitude of the anti-gravitational acceleration is the same as the reduction in the natural gravitational action.

Anti-gravitational "repulsive" acceleration occurs when a same arriving Propagated Outward Flow medium concentration takes place on the side of the "encountered" particle opposite that facing the "source". That is the side of the "encountered" particle to which the deflected incoming Propagated Outward Flow is deflected.

THE MAGNITUDE OF THE ANTI-GRAVITATIONAL ACCELERATION

Every "ray" of *Propagated Outward Flow* encountering the "encountered" particle is either deflected to some extent or not deflected. The magnitude of the gravitational attraction is directly related to the magnitude of the region of an additional increment of μ_0 and ε_0 created directly adjacent to the "encountered" particle and located on its side that faces the "source".

The magnitude of the relative reduction of the natural gravitational attraction that the deflector produces is the relative reduction of the magnitude of the region of an additional increment of μ_0 and ε_0 located facing the "source". Every ray removed by deflection from contributing to that region automatically contributes to the anti-gravitational region on the "encountered" particle's side away from the "source".

Thus, the magnitude of the anti-gravitational "repulsive" acceleration equals the magnitude of the reduction in the natural gravitational "attractive" acceleration. All of the deflected portions of the incoming Flow are deflected toward the region adjacent to the "encountered" particle on its side away from the "source". Therefore,

the magnitude of the anti-gravitational acceleration is the same as the reduction in the natural gravitational action.   Therefore, the magnitude of the anti-gravitational acceleration is the same as the reduction in the natural gravitational action.

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CONTROLLED GRAVITATION SPACE TRAVEL APPLICATIONS

The propulsion system for space travel must perform a number of varied tasks:

- Launch into space from a gravitating source, a planet,
- Soft landing on a gravitating objective, a planet,
- Continuous acceleration for approximately half the total trip,
- Continuous de-celeration for the remainder of the trip,

and provide a reasonable level of planet simulating gravitational environment in the ship.

The propulsion system for a planetary exploration craft must:

- Neutralize local gravitation so that the craft can fly.
- Provide controlled gaining and losing of altitude.
- Provide forward and rearward acceleration, constant velocity cruising, hovering and braking.

and provide a reasonable level of local gravitation within the craft.

In addition both the spacecraft and the planetary exploration craft require substantial electric power to maintain human supportive environment and to power controls, instruments and tools.

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These issues are addressed in the following:

Section 10, Gravitation Deflector Engineering Design

Section 11, Applications to the Problems of Space Travel

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