

Practical Proof for Gravity to be a Wave of high Frequency through the Vacuum Medium

The Visionary Aspect:

- **Gravity** vibrates **Masses** in its mechanism of **Attraction** and hence it could not be any flux like thing, spreading through the space to attract Matter.
- **Gravity** vibrates **Masses** in its mechanism of **Attraction** and hence it could not be a depression due to any falling curvature of the space.

The Missionary Aspect:

- A laboratory experiment of the simplest form is suggested to exhibit how '**Gravity**' makes objects of '**Atomic Matter**' vibrate continuously.
- The same experiment is based to derive **Frequency** of the '**Gravitational Wave**'.
- Derivation of a mathematical expression for '**Gravitational Static Work-done**'.

Background Aspect:

- The practical was done for the first time in Sep 1993 to observe that 'Gravity vibrates masses of Atomic Matter' and the **Frequency** of the vibration too was derived.
- However I was not very confident of my finding and it was kept unexposed for nearly 15 years in my note book and the idea was published in 2009 as an experimental monograph by name of 'Space Dynamics-V2' in my personal website known as "Gamage Consultations". It was also published in the famous websites <world mysteries .com> and <science doubts.com> thence in parallel.
- The edited script of the same subject matter was published in the technical monograph "The Dynamic Model of Atom" in 2017 (ref <http://www.cyrilhtgamage.com/index.php/87-space-dynamic/175-the-dynamic-model-of-atom>)

Description:

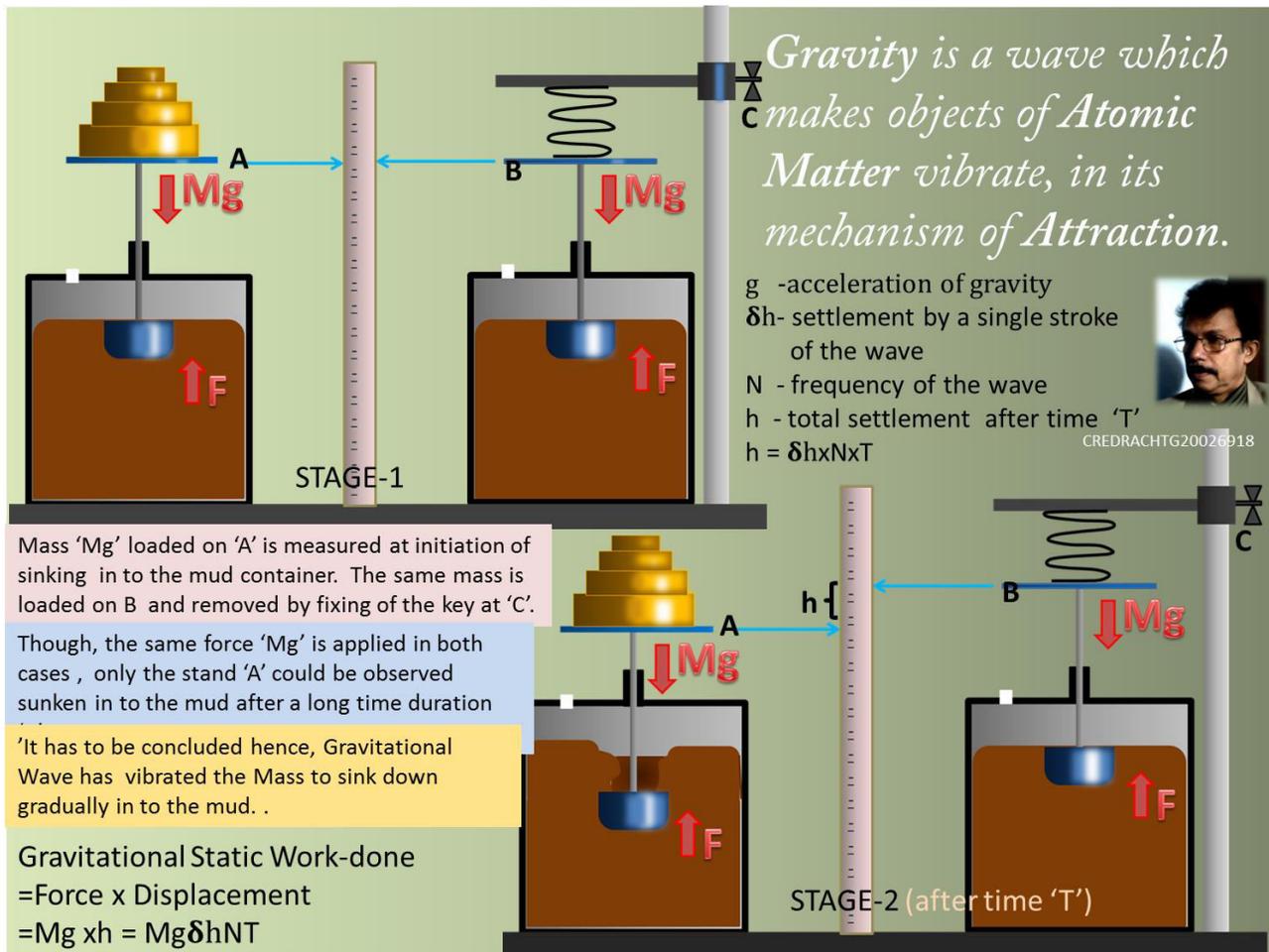


Figure-01 (mud penetration test to exhibit Gravitational Vibration)

Conceptual Deductive Approach:

- A '**Force**' alone cannot do any '**Work**' unless there is a '**Displacement**'.
- A '**Force**' with a '**Vibration**' can do '**Work**' with an observable long term gradual '**Displacement**'.
- Objects of '**Atomic Mass**' do work under '**Gravitational Force**' and hence Gravity should vibrate even distant Matter in its '**Mechanism of Attracting**'.
- Gravity is a wave operated phenomenon in its mechanism, which spreads high frequent waves through the **VacuumMedium**.

Description:

Pasted the paragraph as directly abstracted from the monograph 'Space Dynamics-V2' (ref. http://www.cyrilhtgamage.com/images/pdf/SpaceDynamics_V2.pdf)

2.12 Expression for Static Work Done

Atomic mass is continuously vibrated by the strokes of the Gravitational Wave and therefore work is done though, the objects are not moving apparently.

As shown in the figure-04 a weight 'm' is kept on a stand. Due to the frequent strokes of the Gravitational Wave, the weight is vibrated about its rest plane. If anything, under a force is vibrated, a work is done and it can be evaluated as follows;

Work = (Force) x (Displacement per a stroke) x Frequency of the Wave.

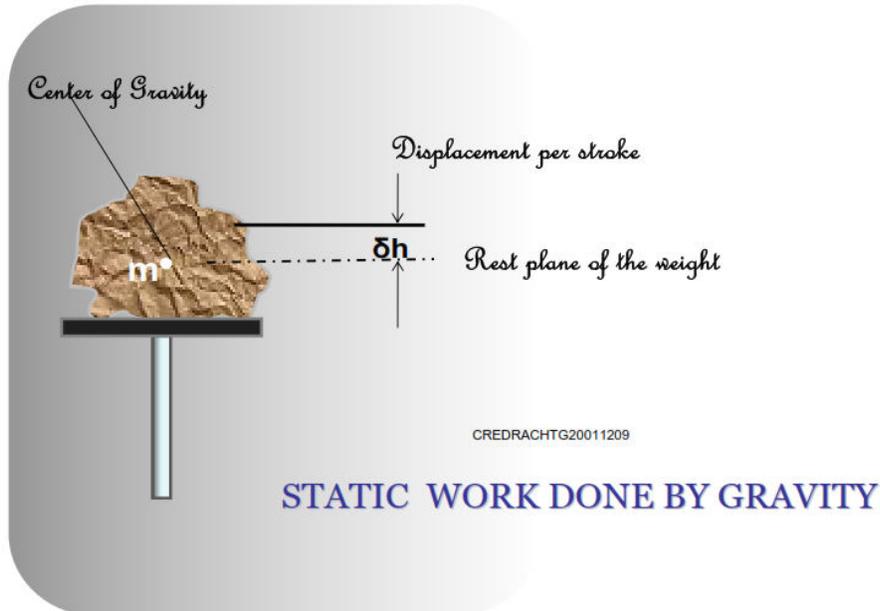


FIGURE-04

Gravitational work done of the mass 'm' per second, as shown in the figure-04,
 = (Gravitational force)x(Displacement per stroke)x(Frequency)
 = $(mG) \times (\delta h) \times (N)$
 = $NmG\delta h$. (Where, N is the frequency of the gravitational wave and G is the acceleration of Gravity.

The object which is vibrated by the wave, exhibits a free motion under gravity and therefore 'δh' can be calculated by Newton's equation $s = ut + \frac{1}{2} ft^2$.

$$\delta h = (0)t + \frac{1}{2}(G)t^2 \quad (\text{where } t \text{ is the time taken} = \text{time per a single wave stroke})$$

$$= \frac{1}{2}G \left[\frac{1}{2N} \right]^2$$

$$= \frac{G}{8N^2}$$

Therefore 'Gravitational Static Work Done' by the mass 'm' per second can be calculated as;

$$W_s = NmG \left(\frac{G}{8N^2} \right)$$

$$W_s = \frac{mG^2}{8N} \dots\dots\dots(4)$$

If frequency of the gravitational wave is known, the hidden static work done by masses under gravity, can be evaluated by means of above relation.

2.2 LABORATORY EXPERIMENT TO DEDUCE FREQUENCY OF THE GRAVITATIONAL WAVE

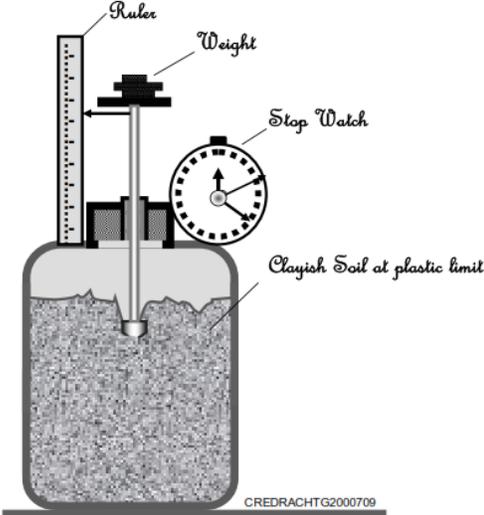


FIGURE-05

- Apparatus: As shown in the figure-05, wetted clayish soil at plastic limit is filled in to the glass utensil. The stand in the apparatus is free to move vertically and an indicator is fixed with it to measure distances of sinking. Also a stop watch is included with the apparatus.

- **Procedure:**

The stand is loaded by small weights, one by one, until the piston just starts to penetrate in to the soil and that weight is measured.

If the weight of the stand is known the total weight 'M' at the initiation of motion is known. That is the resistance against penetration.

Then the stand is loaded with smaller weights so that the total weight 'm' is lower than 'M' and the sinking with time is measured. On that way readings are recorded for different loads lower than 'M'.

- **Notation :**

m- load + weigh of the stand (g)

M- total weight at the initiation of apparent motion (g)

T- time duration (seconds) –this is fixed for simplicity

L- depth of sinking (cm)

N- frequency of the gravitational wave (strokes/second)

G- acceleration of gravity (cm/s^2)

- **Calculation:**

Work done in sinking against resistance $= MG \times L$

Potential energy drop by sinking $= mG \times L$

The hidden work $MGL - mGL = GL(M - m)$

Gravitational static work done 'Ws' by the weight 'mG' during time 'T', as deduced by the

equation-(4),
$$W_s = \frac{mG^2T}{8N}$$

The hidden work is done by the impulsive strokes of the gravitational wave.

i.e

$$GL(M - m) = \frac{mG^2T}{8N}$$

$$L = \frac{GT}{8N} \times \frac{m}{(M - m)}$$

'L' and 'm/(M-m)' in above expression, are the only variables and by the gradient 'C' of the plotted graph the constant, 'GT/8N' is given.

$$C = \frac{GT}{8N}$$

$$N = \frac{GT}{8C}$$

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2.21 Result:

Frequency of the Gravitational wave of Earth, was found as 10^7 per second, by above experiment carried out on 11th Sep 1993 and it is concluded that, the gravitational wave must be of the range of TV & Radar, in accordance with the Electromagnetic Spectrum.

2.22 Discussion:

It is an engineering practice to drop a heavy weight repeatedly to drive a concrete pile in to hard ground and it would not work if the weight is just put on the top of the pile. The impulsive strokes by the weight dropped under gravity, could make the pile penetrate in to soil little by little.

Similarly the weight above the piston of the stand, in above experiment, applied blows repeatedly (due to the gravitational vibration of matter at a frequency of 10^7 per second) resulting ultimately an apparent penetration in to the soil of which the work done could be measured.

Conclusion:

1. What is proven?

- "Gravity is a phenomenon to attract 'Atomic Matter' by its wave operated Mechanism"
- "Gravity makes even distant Matter vibrate by its high frequent wave strokes"

2. Evidential Observations:

- Buildings are failed gradually by settling due to 'Gravitational Vibration' ultimately appear as wide cracks.
- A weight lifter is burning much energy to hold the weight up even without moving due to 'Static Work-Done of Gravity'.

Static work done by Gravity

HOW LONG CAN YOU HOLD IT?

You are burning one watt of energy per second just to hold it without moving.

How much energy is burned by him per second?

Work=(force)(bump by the vibration)(frequency of the Gravity vibration)(time)

$$\begin{aligned}
 W &= (Mg) (\lambda) (N) (t) \\
 &= (100\text{kg} \times 10\text{ms}^{-2}) (10^{-10}\text{m}) (10^7\text{s}^{-1}) (1\text{s}) \\
 &= 1\text{Nm} = 1 \text{ joule} = 1 \text{ watt} = 10^7 \text{ ergs} = 0.24 \text{ calories}
 \end{aligned}$$

W= work done by holding the heavy weight per second

N=frequency of the Gravitational wave $\approx 10^7$ cycles per second (found experimentally)

λ = Atomic masses are bumped due to the Gravity wave by $\lambda \approx$ Radius of an atom $= 10^{-10}$ m

M= mass of the weight (say 100kg)

g = acceleration of Gravity = 10m/s^2

Ref. 'Space Dynamics-V2'/2009 at www.cyrilhtgamage.com

Masses are vibrated by Gravitational wave strokes and hence a static work is done there.



Figure-02(Burning Energy against Static Work of Gravity)

- Mountain fountains are born due to Gravitational Vibration of huge rocky masses resting upon confined aquifers to pump out water up through non return fragments.



Figure-03 (Theory of Mountain Fountain)

3. What is the Mechanism of Gravity?

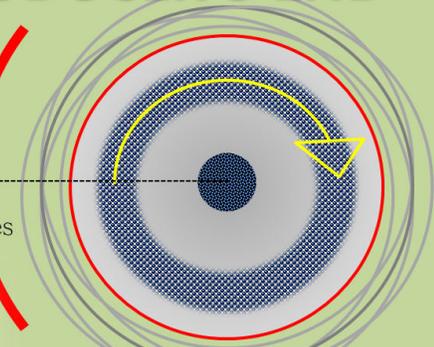
Mechanism of Gravity has to be addressed at both ends such as the "Producer's End Mechanism" and 'Receiver's End Mechanism'.

- Producer's End Mechanism:

GRAVITATION AT THE PRODUCER'S END

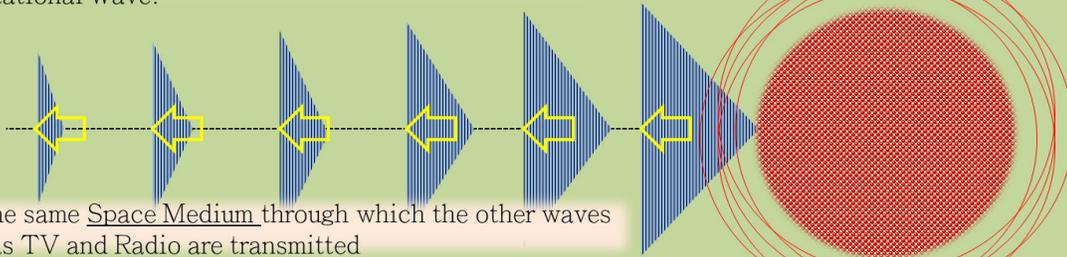
Mechanical Engineers agree that every rotating machine makes a vibration and also, Atomic Chemists agree that Atom is a rotary system with an electron cloud orbiting the nucleus vigorously. Hence, a FM wave is emitted through the medium spreading spherically out due to the vibration of the Gravity Source (Atoms).

A bigger collection of atoms therefore should emit a stronger wave through the medium. But what is the Medium for the Gravitational Wave?



(vibration made by a single atom)

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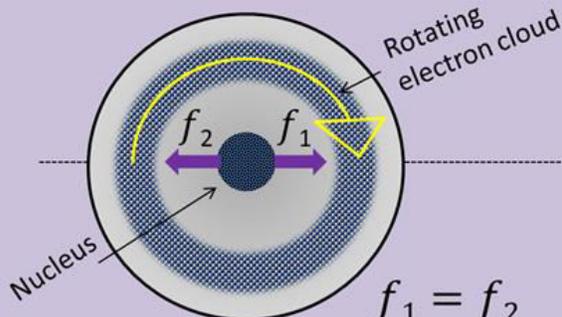
It is the same Space Medium through which the other waves such as TV and Radio are transmitted

MECHANISM OF GRAVITY

(vibration made by a huge mass of atoms)

- Receiver's End Mechanism:

GRAVITATION AT THE RECEIVER'S END

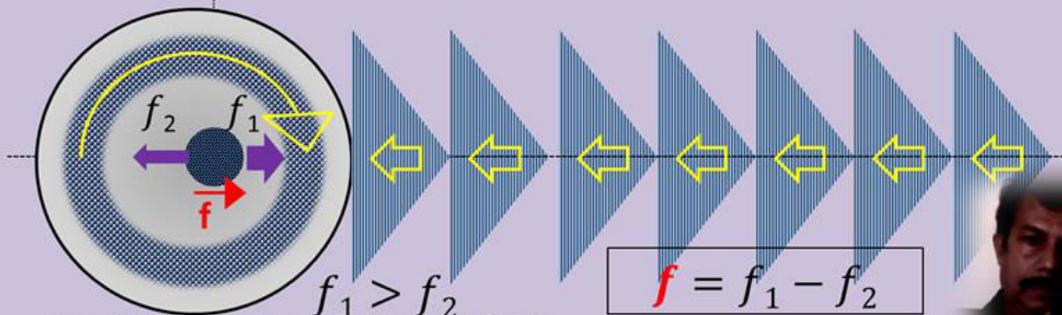


Case-1 (the atom in a gravity free zone)

$$f_1 = f_2$$

The electron cloud is in dynamic stability by the balance of centrifugal force of its rotation and Coulomb's attraction towards the positively charged nucleus.

The balance is gone with the frequent attack upon the body of atom by the Gravitational Wave and the Attraction towards the Gravity Source is the due Columbic force difference at the nucleus.



Case-2 (the atom in a gravitational field)

$$f_1 > f_2$$

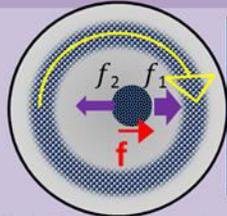
$$f = f_1 - f_2$$

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MECHANISM OF GRAVITY - tail end effect of gravity

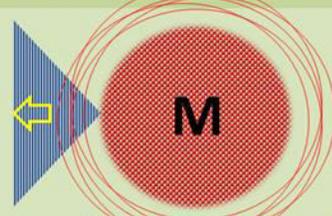
- Proof for Newtonian Gravity:

Receiver's end Gravitation Producer's end Gravitation



Unit Mass (of atoms)

Δ - is the depth of Medium Excitation due to the Gravitational Wave Stroke at the receiver (proportional to strength of the wave at a distance 'D')



Gravity Source (of atoms)

- Force of Attraction ' f ' = Coulomb's electromagnetic force difference at the nucleus = $(f_1 \cdot f_2)$
- $(f_1 \cdot f_2)$ is proportional to the strength of the Gravitational Wave at the receiver (Δ)

$$f = k_1 \Delta$$

- Δ - is proportional to the mass ' M ' (of atoms) of the Gravity Source (bigger masses possess bigger gravitation)
- Δ - is also inversely proportional to the square of the distance from the Gravity Source (surface area of the spherical wave front is increased while the wave strength is decreased)

$$\Delta = \frac{k_2 M}{D^2}$$

To Newtonian Gravitation

Acceleration of Gravity at a distance 'D' from the Gravity Source =
Force of attraction induced upon a Unit Mass in the field

$$f_g = \frac{k_1 k_2 M}{D^2} = \frac{kM}{D^2} \text{ where 'k' is the Gravitational Constant}$$

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MECHANISM OF GRAVITY (analysis of gravitation)

4. Gravity and Future

- Artificial Gravity shall certainly be produced in future to be used in a vast range of application.
- Gravity shields shall certainly be invented in future to be used in a vast range of flying application.

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