Light, Gravity, and Mass Robert and David de Hilster August 2015, CNPS Conference

Recent Events

- In Feb. Paul, Arde, and I finished our paper on the EM wave theory of gravity.
- Later, I asked myself the question:
 - "Can a particle have a frequency?"
- I tried spin, it did not work
- I tried a sequence of particles Interesting!
 Pulse Code Modulation

May 29, 2015 - Sent white paper to David

Characteristics of Visible Light

- Frequency
- Speed
- White light, (Red, Green, and Blue)
- Reflection
- Refraction
- Absorption
- There is work to do!

Assumptions

- The universe is made up of objects that move.
- All motion is caused by pushing.
- Natural phenomenon can be explained using particles in motion.

Sine Wave

- Mathematical Model
 - $a_t = A \sin 2\pi f t$
 - $f = v_w / \lambda$
- The mathematics is continuous!
 - How does nature generate a continuous wave?
 - In three dimensions?
 - Mixing all sources and different frequencies.
- No mechanism, just math

Particle Wave

- A stream of particles that are distributed in a simple or complex pattern.
- Here is a possible sequence:
 - (55, 60, 70, 60, 55, 45, 40, 30, 40, 45)
 - Each number represents the number of particles in 0.1 second interval.
- Particles move in a straight line.
 - Close to the speed 'c'.
 - High density is a positive peak (70).
 - Low density is a negative peak (30).

Physical Drawing

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Math for the Particle Wave

- Particle Wave
 - (55, 60, 70, 60, 55, 45, 40, 30, 40, 45)
- Amplitude

•
$$A = (D_{Max} - D_{min})/2 = 20$$

- Velocity $v_p \sim c$
- Frequency
 - $f_w = \frac{v_p}{\lambda_w}$, One cycle per second
 - each number above is 0.1 second.

Planck's Constant

It was Max Planck [2] that defined the energy of a charged atomic oscillator as being proportional to the frequency of a wave. This is Planck's equation:

$$E = hf$$

 Although this equation appears continuous, the energy levels are reported as quantized, and 'h' is Planck's constant.

Intensity

The particle theory of light indicates that the number of particles per wave could be interpreted as intensity.

•
$$I \propto N_p / \lambda_w$$

• Using $f_w = v_p / \lambda_w$, we get:

• $I \propto \frac{N_p}{v_p} f_w$

If this is True...

$$I \propto \frac{N_p}{v_p} f_w$$

- Then Intensity is quantized because Np is an integer. And....
- Planck's constant is not a constant! It is:
 - directly proportional to the number of particles.
 - directly proportional to frequency.
 - inversely proportional to the particle velocity.
 - And these are all interactive

Applying the Theory

- Frequency If the pattern repeats
 - Gamma, light, radio, gravity
- Speed, ~c
- White light, (Red, Green, and Blue)
- Reflection
- Refraction (Bending, Dispersion)
- Absorption
- There is work to do!

The Particle Theory of Gravity

- Fatio and Le Sage led the way.
- The theory has been totally discredited.
- I have been working this discredited theory for ten years. Here is my very first equation:

•
$$F = \sum_{0}^{359} N_p (1 - A_b Z) \cos a$$

From "Gravity Experiment", NPA 2007

Le Sage Theory



Fig. 2. Pairs of macroscopic bodies traversed by currents of ultramundane corpuscles. From Le Sage's Essai de chymie méchanique. Photo courtesy of the Library of the Royal Society, London.

A Low Frequency Wave?

- Could Le Sage particle stream be a low frequency low amplitude wave whose intensity is based on the number of particles per wave?
- Or is it an zero frequency and zero amplitude stream of particles whose intensity is based on the number of particles per meter?

The Same Particle?

Could gravity be caused by the same particle as gamma rays, radio waves, and visible light?

Reflection

Red Laser Pointer reflects off of the wall.

Reflection

Red Laser Pointer reflects off of the wall.
 Or
 Does it scatter?
 From a wall or from a mirror

Refraction



Pushing Force



Gravity 1 and Gravity 2

- Gravity 1 particle moves the sun, earth and moon.
- Gravity 2 particle moves gravity 1 particles
 EM waves, light, radio waves, and gravity1

Mass

- Gravitational mass is the interaction of the gravity 1 particle with the sun, earth, moon, and more. These objects have gravity 1 mass. The value of gravitational mass is referenced to the standard Kg mass.
- The mass of light is the interaction of the gravity 2 particle with light, gamma rays, radio waves, and gravity 1 particles. These objects have gravity 2 mass. There is no standard for gravity 2 mass.

Dispersion



Interaction Model

- I asked:
- How can visible light have a slow speed in water and then speed up as it enters the air?

The Compton Effect shows gamma rays interacting with an object and emitting an electron.

A Proposed Model



It can stay and push the water or
It can stay and push:

- It can stay and push;
 - and then be pushed out a small time later.

Stays

It pushes the object



And it adds mass to the object

Emitted

Based on cause and effect, there is a small delay from the time it enters to the time it is emitted.



Particle is emitted at speed c (A proposal).

David's Model



Ave Velocity < c

Here's David!

The End

OrIs it a new beginning?