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Research Article

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Formula Extraction in Supreme Theory of Everything

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Abstract

Not only universe, but everything has general characters as eternal, infinite, cyclic and wave-particle duality. Everything from elementary particles to celestial bodies, from electromagnetic wave to gravity is in eternal motions, which dissects only to circle. Since everything is described only by trigonometry. In this paperthe formula extraction of Supreme Theory of Everything is shown.

Keywords: Incident and refraction angles, offset distance

Introduction

Scientists seek the truth in connection of extremely micro world and super macroscopic world. Of course, it is the final goal of science. Today we still yearn to know why we are here and where we came from. Our goal is nothing less than a complete description of the universe we live in [1]. Quantum mechanics governs the world of the small-the weird realm in which an atom or particle can be in many places at the same time and can simultaneously spin both clockwise and anticlockwise. Gravity governs the Universe at large-from the fall of an apple to the motions of planets, stars, and galaxies-and is described by Albert Einstein's of general theory. The theory holds that gravity is geometry: particles are deflected when they pass near the massive object not because they feel a force [2].

The Supreme Theory of Everything must describe by the circle, which is ubiquitous. Circle can be described mathematically, represented physically and employed technologically. The circle is an elegant, abstract form that has been transformed by humans into tangible, practical forms to make our lives easier. And yet no one has ever discovered a true mathematical circle [3]. The objective of this paper is to describe the main formula for a general law of cyclic universe for unification of partial theories under the name: Supreme Theory of Everything (STE).

Supreme Theory of Everything: Formula Extraction

Do you believe that the mysteries of nature hide in unsophisticated and ubiquitous realm?

Wave Behaviors in Media

According to Quantum Mechanics, all the particles in the universe have the properties of waves, including all the particles that we ourselves are made from. Therefore, to understand electric, magnetic fields, sound, heat, seismic, and very nature of reality, it is necessary to first understand waves. Light is a wave of electric and magnetic fields. Electromagnetism indicates the particle-wave duality and different medium. The waves are described by Schrodinger's wave function of quantum mechanics. However, we begin the light behaviors across a medium based on the book of Raymond A. Serway and John W. Jewett, Jr., [4].

Light Refractions in Medium

The ray of light travelling through a transparent medium encounters a boundary leading into another transparent medium, in which some part of the light energy is reflected, another part enters the second medium, ray is bent at the boundary and refracted (Figure 1). The angle of refraction, θ_2 depends on the properties of the two media and on the angle of incidence θ_1 through the relationship

$$\frac{\mathrm{Sin}\,\theta_2}{\sin\theta_1} = \frac{v_2}{v_1} \qquad (1)$$

Where v_1 is the speed of light in the first medium and v_2 is the speed of light in the second medium.

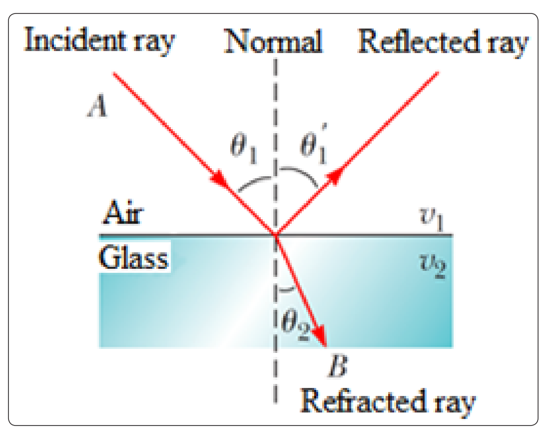

Figure 1: Incident, reflected and refracted rays in a medium

When the light beam moves from air into glass, the light slows down upon entering the glass and its path is bent toward the normal. The refracted ray is bent toward the normal because $v_2 < v1$. All rays and the normal line in the same plane. The angle of refraction θ_2 is less than the angle of incidence θ_1 and the ray is bent toward the normal. According to the Snell's law (Equation 2) the speed of light in any material is less than its speed in vacuum.

$$\frac{sin\theta_1}{sin\theta_2} = \frac{n_2}{n_1} \quad (2)$$

In fact, light travels at its maximum speed in vacuum. It is convenient to define the index to be the ratio

$$n = \frac{c}{v} \quad (3)$$

Where n is equal to unity for vacuum. The indices of refraction for various substances are different.

As light travels from one medium to another, its frequency does not change, but its wavelength does.

$$\frac{\lambda_1}{\lambda_2} = \frac{v_1}{v_2} = \frac{n_2}{n_1} \quad (4)$$

This expression gives $\lambda_1 n_1 = \lambda_2 n_2$

If medium 1 is vacuum or, for all practical purposes, air, its refraction index, then $n_1=1$.

Fermat's principle leads to Snell's law; when the sines of the angles in the different media are in the same proportion as the propagation velocities, the time to get from A point of beginning to end is minimized.

Light Passing through a Slab and to Everything Formula

A light beam passes from medium 1 to medium 2, the latter medium being a thick slab of material whose index of refraction is n_2 (Figure2).

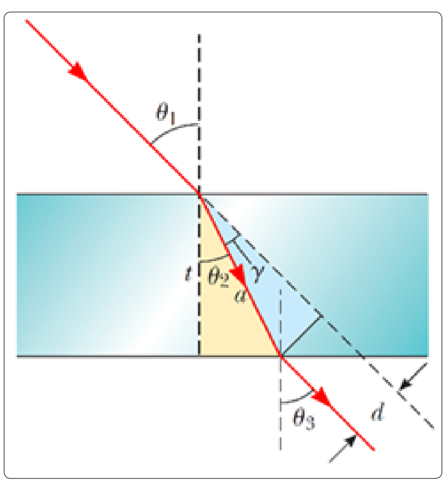

Figure 2: Offset distance of a transmitted ray across slab

When light passes through a flat slab of material, the emerging beam is parallel to the incident beam. Therefore, $\theta_1=\theta_3$. The dashed line drawn parallel to the ray coming out the bottom of the slab determines the path the light would take the slab not there.

Show that the beam emerging into medium 1 from the other side is parallel to the incident beam.

Apply Snell's law of refraction to the upper surface:

$$\sin\theta_2 = \frac{n_1}{n_2}\sin\theta_1 \quad (5)$$

$$\frac{n_1}{n_2} = \frac{\lambda_2}{\lambda_1} = \frac{v_1}{v_2}$$

Equation 5 shows us that highest refraction index leads to lower wavelength and velocity.

Apply Snell's law to the lower surface:

$$\sin\theta_3 = \frac{n_2}{n_1}\sin\theta_2$$

$$\sin\theta_3 = \frac{n_2}{n_1}\left(\frac{n_1}{n_2}\sin\theta_1\right) = \sin\theta_1 \quad (6)$$

Therefore,$\theta_3=\theta_1$ and the slab does not alter the direction of the beam. It does, however, offset the beam parallel to itself by the distance *d* shown in Figure 2. Consider the region of the light path within the slab. The distance *a* is the hypotenuse of two right triangles. Find an expression for a from the gold triangle:

$$a = \frac{t}{\cos\theta_2}$$

Find an expression for *d* from the blue triangle: $d=a\sin\gamma=a\cdot\sin(\theta_1-\theta_2)$

Combine these equations:

$$d = \frac{t}{\cos\theta_2}\cdot\sin(\theta_1-\theta_2) \quad (7)$$

The refraction light is positive, due to that it is only period. So, the offset distance *d* is

$$d = \frac{t}{|\cos\theta_2|}\cdot\sin(\theta_1-\theta_2) \quad (8)$$

Where *t* is the thickness of flat slab.

From the Equation 7 and Equation 8 we can see the offset distance of light in a medium.

Everything, including us and all the matter from wave-particle duality to universe, from quantum physics to cosmology is described by above formula of offset distance. Furthermore, the Equation (8) can determine the light behaviors such phenomena from as light reflection, refraction, polarization, interference, diffraction and magnetization to quantum computing. As results, everything is described by wave function of circle [5].

Conclusion

1. Offset distance of a transmitted ray across slab produces the formula of STE.
2. STE is described by formula (8).

References

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