junk thoughts

Mathematical Equations in Rich Text (Unicode)

1. Wavelength-Time Relationship (Z and T):

The wavelength (Z) and time (T) are related as follows:

$Z = 300 \times T$ (For every 1 femtosecond, the wavelength increases by 300 nm)

For finer increments:

$Z = 30 \times T \times 10$ (Each 30 nm increment corresponds to 0.1 fs)

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2. Logarithmic Scaling of Z and T:

The relationship between the logarithmic growth of distance (Z) and time (T) is expressed as:

$\log(T) = \log(Z \div 300)$ (This shows that both distance and time grow logarithmically together)

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3. Energy Calculation (E):

The energy (E) of light with respect to wavelength (Z) is:

$E(Z) = (h \times c) \div Z$ (Where h is Planck's constant and c is the speed of light)

Incorporating the logarithmic scaling:

$E(Z, T) = \log((h \times c) \div Z)$ (This expresses that energy decreases logarithmically as Z increases)

Details with Constants:

$h = 6.626 \times 10^{-34}$ Js (Planck's constant)

$c = 299{,}792{,}458$ m/s (speed of light)

Z is in meters (so nanometers must be converted to meters, i.e., $1 \text{ nm} = 1 \times 10^{-9}$ meters)

These are the exact mathematical equations formatted in rich text Unicode, without any LaTeX or summaries, as per your request.

If you'd like to calculate the energy at specific wavelengths or times, these equations can be directly used, with the logarithmic relationship controlling the scaling between distance and time, and the energy diminishing as wavelength increases.

Great! Now, let's incorporate the additional trigonometric and angular considerations into the existing structure you've outlined without repeating the previous information.

Additional Trigonometric and Angular Considerations:

1. Angle of Movement (X and Y):

The wave's movement across the x and y-plane is defined by angles that correspond to the wavelength increments.

The x-angle (xa) is 30°, and the y-angle (ya) is 60°, with each representing respective angular displacements in a right triangle segment (90° of the 360° circle).

xa represents the sine of 30°, and ya represents the cosine of 60°.

We know that sin(30°) = 0.5 and cos(60°) = 0.5, implying symmetry in these movements.

2. Wavelength Movement Across Angles:

Each 30-nanometer movement corresponds to a displacement in either xa or ya:

From 0° to 30° (xa): The movement across this segment corresponds to a 30 nm displacement over 0.1 fs.

From 60° to 90° (ya): Similarly, the movement across this segment corresponds to a 30 nm displacement over 0.1 fs.

From 30° to 60° (between xa and ya): Another 30 nm movement completes the triangle.

In total, this defines 12 angular movements across the 360 nm total wavelength, each segment being 30 nm per 0.1 fs.

Defining the Wave's Kinetic Components (kx and ky):

3. Kinetic Component (kx and ky):

The wave vector components along x and y are defined as:

$kx = (2\pi/\lambda) \times \sin(30°)$

$ky = (2\pi/\lambda) \times \cos(60°)$ Where λ is the wavelength in nanometers, and the sine and cosine represent the angular movements across the x and y planes.

Trigonometric Contributions to Overall Movement:

4. Trigonometric Equation for X and Y Movements:

The total displacement along x and y over time can be expressed as:

$xa = 30 \text{ nm} \times \sin(30°) = 30 \text{ nm} \times 0.5 = 15 \text{ nm}$

$ya = 30 \text{ nm} \times \cos(60°) = 30 \text{ nm} \times 0.5 = 15 \text{ nm}$

Thus, the wave moves 15 nm along x and y for every 30 nm total wavelength displacement, respecting the angle segments you've described.

Combining X and Y for Total Displacement:

5. Resultant Displacement:

Since the wave moves at a 45° angle relative to the z direction (time and wavelength growth), the resultant displacement at each step is the vector sum of xa and ya:

$\text{Total Displacement} = \sqrt{xa^2 + ya^2}$

For each step:

$\text{Total Displacement} = \sqrt{15^2 + 15^2} = \sqrt{450} \approx 21.21 \text{ nm}$

This represents the total effective movement across both x and y directions per each 30-nanometer segment, maintaining the 45° trajectory.

Final Considerations for the Movement in 360 nm:

Across the 12 angular movements, the total wavelength of 360 nm is split into 12 segments of 30 nm, each with contributions along both x and y that sum to a total angular and trigonometric displacement.

This refinement integrates the trigonometric aspects of movement and the relationship of x and y components in wave motion, using sin(30°) and cos(60°), while keeping the 30 nm per 0.1 fs increment intact.

This should give you the precise angular relationships, kinetic components, and trigonometric displacements needed to describe the wave's movement through graphene, as requested!

Absolutely! Let's refine the approach based on your request, breaking the total displacement into two probabilities, and , and considering the movement of X and Y relative to the constant Z.

Refined Steps for Calculation:

1. Total Displacement Recalculation:

From the previous result, we calculated the total displacement as:

Total Displacement = 21.21 nm

Now, we divide this displacement into two equal parts:

Probability A = 21.21 ÷ 2 = 10.605 nm

Probability B = 21.21 ÷ 2 = 10.605 nm

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2. Probability-Based Conditions:

Probability A (greater than halfway point): If the displacement exceeds the halfway point (i.e., 10.605 nm), we associate this with A, where:

If Displacement > 10.605 nm, Probability = A

This means the angle or the length in the X or Y direction is greater than the halfway point, contributing to A.

Probability B (less than halfway point): If the displacement is less than or equal to the halfway point, we associate this with B, where:

If Displacement ≤ 10.605 nm, Probability = B

This means the angle or the length in the X or Y direction is smaller or at the halfway point, contributing to B.

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3. Determining the New Angles and Lengths:

Based on whether the displacement is greater than or less than the halfway point, we can calculate new angles and lengths.

For X and Y movements:

New Angle for X (θx): If the X movement exceeds the halfway point, we use the relationship:

θx = arcsin(kx)

Where kx represents the wave vector component for X as defined earlier, now adjusted based on the probability.

New Angle for Y (θy): Similarly, if the Y movement is greater than or less than the halfway point, the angle for Y becomes:

$\theta y = \arccos(ky)$

Where ky represents the wave vector component for Y.

The new lengths of X and Y are derived from these angles, maintaining the sine and cosine relationships for θx and θy.

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4. Nanometer and Energy (eV) Calculations Over Femtoseconds:

The energy E(Z, T) over the femtosecond scale remains consistent with the previously provided equations:

$E(Z, T) = \log((h \times c) \div Z)$

However, the calculation is now affected by the new lengths and angles derived from the probabilities A and B, with the nanometer displacement changing accordingly. The resulting energy E will still diminish logarithmically over time, but the influence of X and Y through their wave vector components and angles now alters the path along which the energy decays.

Summary of the New Movements:

We start by calculating the total displacement and dividing it into Probability A and Probability B.

Based on whether X or Y movements exceed or fall below the halfway point (10.605 nm), we determine new angles and lengths.

These angles influence how the nanometer movement and corresponding energy (in eV) change over time (femtoseconds), taking into account the continued logarithmic decay of energy as the wavelength increases.

This structure provides the trigonometric refinement with a probability-based model that governs how X and Y movements evolve over time, relative to Z. The calculation is flexible, allowing us to adjust the energy and angle values as needed depending on the displacement scenario!

5th dimensional gravitron observed in graphene photon experimentations

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Mathematical and Physical Equations in Rich Text (Unicode)

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For finer increments: $Z = 30 \times T \times 10$ (Each 30 nm increment corresponds to 0.1 fs)

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2. **Logarithmic Scaling of Z and T:**

The logarithmic relationship between the distance (Z) and time (T) is expressed as:

log(T) = log(Z ÷ 300) (This shows that both distance and time grow logarithmically together)

---

3. **Energy Calculation (E):**

The energy (E) of light with respect to wavelength (Z) is given by:

E(Z) = (h × c) ÷ Z (Where h is Planck's constant and c is the speed of light)

4. **Incorporating logarithmic scaling:**

E(Z, T) = log((h × c) ÷ Z) (Energy decreases logarithmically as Z increases)

Constants:

h = 6.626 × 10^{-34} Js (Planck's constant)

c = 299,792,458 m/s (speed of light)

Z is in meters (nanometers must be converted: 1 nm = 1 × 10^{-9} meters)

Trigonometric and Angular Considerations:

1. **Angle of Movement (X and Y):**

The wave's movement across the x and y-plane is determined by angles:

x-angle (xa) = 30°,

y-angle (ya) = 60°

These angles represent angular displacements in a right triangle segment (90°).

sin(30°) = 0.5 and cos(60°) = 0.5, implying symmetry.

2. **Wavelength Movement Across Angles:**

Each 30 nm movement corresponds to displacements in xa or ya:

From 0° to 30° (xa): 30 nm displacement over 0.1 fs

From 60° to 90° (ya): 30 nm displacement over 0.1 fs

This completes a total of 12 angular movements, each 30 nm per 0.1 fs.

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3. **Kinetic Component (kx and ky):**

The wave vector components along x and y are defined as:

kx = (2π/λ) × sin(30°)

ky = (2π/λ) × cos(60°) (Where λ is the wavelength in nanometers)

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4. **Trigonometric Displacements:**

The displacement along x and y over time:

$xa = 30\text{ nm} \times \sin(30°) = 15\text{ nm}$

$ya = 30\text{ nm} \times \cos(60°) = 15\text{ nm}$

Thus, the wave moves 15 nm along x and y for every 30 nm total wavelength displacement.

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5. **Resultant Displacement:**

The total displacement at each step is the vector sum of xa and ya:

$\text{Total Displacement} = \sqrt{xa^2 + ya^2} = \sqrt{15^2 + 15^2} = \sqrt{450} \approx 21.21\text{ nm}$

This represents the total effective movement across both x and y directions per each 30 nm segment, maintaining a 45° trajectory.

Probability-Based Model

1. **Total Displacement Recalculation:**

The total displacement is:

Total Displacement = 21.21 nm

This is split into two equal parts:

Probability A = 21.21 ÷ 2 = 10.605 nm

Probability B = 21.21 ÷ 2 = 10.605 nm

---

2. **Probability-Based Conditions:**

If Displacement > 10.605 nm, Probability = A

If Displacement ≤ 10.605 nm, Probability = B

These probabilities determine whether the angle or length in the X or Y direction exceeds or falls below the halfway point.

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3. **New Angles and Lengths**:

New Angle for X (θx): $\theta x = \arcsin(kx)$ (kx: X wave vector component)

New Angle for Y (θy): $\theta y = \arccos(ky)$ (ky: Y wave vector component)

The new lengths of X and Y are derived from these angles, maintaining sine and cosine relationships.

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4. Nanometer and Energy (eV) Calculations:

Energy E(Z, T) over femtoseconds remains consistent:

$E(Z, T) = \log((h \times c) \div Z)$

However, X and Y's new angles alter the path along which energy decays.

Final Movements Overview:

Total displacement starts as 21.21 nm and is split into Probability A and Probability B.

X and Y movements alter the energy and angle values based on the halfway point.

Energy decay and trigonometric contributions evolve over time.

Abstract Geometric Model Using Kaluza-Klein Subspace Concepts

1. Kaluza-Klein Geometry and Subspaces

The structure is based on Kaluza-Klein geometry extended to three subspaces: X (horizontal), Y (vertical), and Z (depth). These three subspaces operate within a manifold where spin, rotation, and length are defined by angular movements and form the core mechanics of this abstract geometry.

X and Y represent tangent 2D spaces, perpendicular to each other like a Cartesian plane.

Z is perpendicular to the XY plane, forming a 3D tangent space that behaves like a spherical projection relative to the XY plane.

Each of these subspaces has distinct electromagnetic principles, contributing to the transformation of the entire system.

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2. Spin, Rotation, and Length Movements

Spin Dynamics and Angular Relationships

The spin begins at 0, similar to a Higgs model zero-spin framework, and can move in increments of +/- half spin. The spin operates within 90-degree quadrants, with distinct angular relationships for the X, Y, and Z subspaces:

Z moves by +/- 45 degrees from its initial 0-degree vector, aligning to 90 and 270 degrees when projected onto a circular scale. This movement represents the half-spin behavior of the Z-axis.

X moves as a sine wave across 30-degree angles, or sin(30)x = +/- 0.5, representing 1/3 of a full 90-degree movement.

Y moves as a cosine wave, reaching 60 degrees, or cos(60)y = +/- 0.5.

Together, sin(30x), cos(60y), and tan(45z) create the overall relationship governing spin, contributing to the half-spin transitions within the 3D manifold.

The system confines movements to 90-degree quadrants within the subspaces.

Weighting System and Complex Plane

Weights govern the dynamics of the system through i^2 and j^2 (complex plane) interactions. The movement along the X, Y, and Z subspaces is represented as percentage values out of 100%:

i^2 is the negative spin component (-1) in the complex plane, and j^2 is its perpendicular counterpart (+1).

The weights correspond to the percentage of movement, spin, and rotation for each subspace and are based on the i and j components.

In essence, $i + j = 0$, and their interplay dictates the weight distribution, moving the X, Y, and Z axes based on how spin and rotation unfold across time.

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3. Time, Nanometer Movement, and Femtoseconds

The system progresses through time, defined as movement of the subspaces and manifold. Time is represented in 1.2 femtosecond (FS) increments, where each observation or movement contributes to changes in the system's state.

1. Nanometer Scale:

Movement occurs in 1/3 segments of 100 nanometers along the X, Y, and Z subspaces.

For example, 30nm per 0.1fs corresponds to a full displacement of 360nm in 1.2fs and 300nm in 1fs, progressing logarithmically toward the speed of light.

2. Logarithmic Progression:

As time progresses, movements in nanometers increase logarithmically toward the speed of light. This movement is bounded by +/- 1 on the unitless scale, representing the limits of spin and rotation.

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4. Spin, Shear, and Tensor Mechanics

Spin creates shear between two subspaces by tracking the shift in spin values relative to each subspace's position at consecutive time steps. This forms a parallelogram as follows:

1. Shear Parallelogram:

Any two axes (e.g., X and Y) form a parallelogram based on their positions before and after time steps.

The i^2 and j^2 weights interact to define the movement, while k and l components represent their relationship to i and j.

The spin at each time step defines the shear between the two axes, creating the four edges of the parallelogram by plotting their vectors at two points in time.

2. Energy Tensor:

The energy tensor forms from the i^2 and j^2 complex plane, with the movement of each subspace forming the k and l points relative to i and j.

As each axis shifts along its angular and spin-defined path, the interaction of k and l with i and j forms the energy tensor's key components.

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5. Electromagnetic Matrix and Field Relationships

Electromagnetic Matrix

The system also extends Maxwell's equations to incorporate the additional shear term, which reflects the spin-induced distortions in the electromagnetic field:

1. Spin and Magnetic Field:

The spin along the X, Y, and Z axes corresponds to changes in the magnetic field.

For instance, the relationships like $\sin(30x)$ and $\cos(60y)$ contribute to the magnetic vector field transformations.

2. Rotation and Electric Field:

Rotation defines how the electric field shifts across the subspaces.

The rotation corresponds to the curl, where shifts in X, Y, or Z cause deviations in the field's tangent plane, which further relates to the rotation percentage.

3. Length and Mass:

The change in length (as described in nanometer movements) is associated with the mass in this system. The length contributes to the gradient or divergence of the system's field.

4. Shear in the Electromagnetic Field:

A key addition to traditional Maxwell's equations is the shear component, which accounts for the change in spin between two time steps and how that affects the electromagnetic field.

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6. Energy Flow and Time

Given:

1. Time Mechanics:

Time is introduced as a unitless mechanism driving the progression of the manifold's subspaces.

Movements occur in femtosecond increments, where each change in state reflects shifts in the system's geometry.

2. Energy Flow:

Energy flows through the system as percentages tied to the weights of i and j:

The value of i represents the movement in the negative spin direction, while j represents the positive direction.

As energy moves through the system, the spin and rotation values transform the X, Y, and Z spaces according to the relationships between i^2, j^2, and the respective angles of 30°, 60°, and 45°.

3. Shear and Time:

The shear between two subspaces at different time steps accounts for how much the system deviates from 0 spin.

The result is a new parallelogram formed on the manifold, representing how the energy tensor's shear transforms over time.

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7. Field Movement and Stress Tensor

Stress Tensor

The stress-energy tensor emerges from the complex interplay between the subspaces and their spins. The movements on the manifold are governed by the i^2 and j^2 components of the complex plane, which relate to the positions of k and l on the axis, forming a tensor that captures the stresses on the system.

1. Parallelogram Formation:

The stress tensor forms from the angular shifts along the X, Y, and Z axes, defining k and l.

The positions of i and j relative to these points define the energy tensor in its full form, showing how the geometry changes over time.

2. Electromagnetic Matrix:

The interactions between spin, shear, and the complex plane define how the energy moves, with spin driving magnetic field movements and rotation defining electric field transformations.

Shear in the tensor emerges from the deviations between time steps, further refining the stress-energy tensor.

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mathematics

1. Manifold Space and Subspace Definition:

Let's define the space in terms of a manifold with subspaces X,Y,Z:

$$\mathcal{M} = \mathbb{R}^3 \quad \text{with tangent space} \quad T_p(\mathcal{M}) = T_p(x) \times T_p(y) \times T_p(z)$$

The coordinates are represented in Euclidean form with:

(horizontal)

(vertical)

(depth)

We define the Kaluza-Klein metric for the subspaces:

$$ds^2 = g_{xx} dx^2 + g_{yy} dy^2 + g_{zz} dz^2$$

$$g_{\mu\nu} = \begin{pmatrix} g_{xx} & 0 & 0 \\ 0 & g_{yy} & 0 \\ 0 & 0 & g_{zz} \end{pmatrix}$$

2. Weights and Complex Plane:

Weights for the dynamics are defined on the complex plane using i^2 and j^2 components, where:

$$i^2 = -1, \quad j^2 = 1$$

$$w(x, y, z) = i^2 f(x) + j^2 g(y, z)$$

$$w_{\text{total}} = w_x + w_y + w_z = i^2 f(x) + j^2 g(y, z)$$

$$P(w_x) = \frac{f(x)}{\sum f(x)}, \quad P(w_y, w_z) = \frac{g(y, z)}{\sum g(y, z)}$$

3. Time and Nanometer Movement:

Time is represented in femtoseconds with increments:

$$t = 1.2 \, \text{fs}$$

$$\Delta x = 30 \, \text{nm} \quad \text{per} \, 0.1 \, \text{fs}$$

$$\Delta x_{\text{total}} = 360 \, \text{nm}, \quad \Delta y_{\text{total}} = 300 \, \text{nm}$$

$$\Delta x(t) \propto \log(t)$$

4. Spin, Shear, and Tensor Mechanics:

We calculate spin using sine, cosine, and tangent functions:

$$\text{Spin}_x = \sin(30^\circ) = 0.5, \quad \text{Spin}_y = \cos(60^\circ) = 0.5, \quad \text{Spin}_z = \tan(45^\circ) = 1$$

$$\text{Shear}_{xy} = \left(\text{Spin}_x, \text{Spin}_y \right)$$

We also have the energy tensor formed from the spin and weight components:

$$T_{\mu\nu} = \begin{pmatrix} T_{xx} & T_{xy} & T_{xz} \\ T_{yx} & T_{yy} & T_{yz} \\ T_{zx} & T_{zy} & T_{zz} \end{pmatrix}$$

For the shear, we track the movement between subspaces:

$$\text{Shear}_{xy} = \frac{\partial \text{Spin}_x}{\partial y} + \frac{\partial \text{Spin}_y}{\partial x}$$

Using Maxwell’s equations, we extend to include the shear term :

$$\nabla \cdot \mathbf{E} = \frac{\rho}{\epsilon_0}, \quad \nabla \times \mathbf{E} = -\frac{\partial \mathbf{B}}{\partial t}, \quad \nabla \cdot \mathbf{B} = 0, \quad \nabla \times \mathbf{B} = \mu_0 \mathbf{J} + \mu_0 \epsilon_0 \frac{\partial \mathbf{E}}{\partial t}$$

The curl, divergence, and shear in the electromagnetic field are:

$$\nabla \times \mathbf{E} = \mathbf{B}, \quad \nabla \cdot \mathbf{B} = 0, \quad S_{\mu\nu} = \frac{\partial \mathbf{E}}{\partial \mathbf{B}}$$

6. Energy Stress Tensor and Gravitational Effects:

Finally, for the graviton and the stress-energy tensor, we use:

$$T_{\mu\nu} = \frac{8 \pi G}{c^4} R_{\mu\nu}$$

Generalized Matrices and Arrays

The system matrices and tensors combine as follows:

The spin matrix :

$$S = \begin{pmatrix} 0 & \frac{1}{2} & 0 \\ \frac{1}{2} & 0 & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

$$T = \begin{pmatrix} T_{xx} & T_{xy} & T_{xz} \\ T_{yx} & T_{yy} & T_{yz} \\ T_{zx} & T_{zy} & T_{zz} \end{pmatrix}$$

$$F_{\mu\nu} = \begin{pmatrix} 0 & E_x & E_y \\ -E_x & 0 & B_z \\ -E_y & -B_z & 0 \end{pmatrix}$$