DARK ENERGY AS A NEW BASE ENERGY TIER
Why Can’t We Find the Nature of Dark Energy?
What do we know about Dark Energy?
What if the very nature of dark energy is such that our current methods are useless?
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\[ E = mc^2 \]
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\[ E = hf \]
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Entire Field of Physics

General Relativity
\[ E = mc^2 \]

Quantum Mechanics
\[ E = hf \]
The scientific method has been very successful in advancing the field of physics.
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The Standard Model of Particles

Quantum Electrodynamics

Quantum Chromodynamics

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Energy of Particles in Spacetime

“Dark Energy”
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Does that seem reasonable?
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Mathematical Derivations

Experimental data
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Did Einstein and Planck leave us hints?

\[ E = mc^2 \]
\[ E = hf \]

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\[ E = hf \]
\[ c = f \Lambda \]
\[ f = c / \Lambda \]

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\[ E = h \left( \frac{c}{\Lambda} \right) \]
\[ E = \left( \frac{h}{\Lambda} \right) c \]
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The energy equations presented in this form reveals evidence of a hierarchy?

\[ E = (m)c^2 \]
\[ E = \left(\frac{h}{\Lambda}\right)c^1 \]

Energy in the form of mass
Energy in the form of light
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Process of Annihilation

\[ E = (m) \ c^2 \quad \text{Mass} \]
\[ E = (h/\Lambda) \ c^1 \quad \text{Light} \]
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Process of Pair Production

\[ E = \frac{\hbar}{\Lambda} c^1 \quad \text{Light} \]

\[ E = (m) c^2 \quad \text{Mass} \]
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\[ E = (m) c^2 \]
\[ E = \left(\frac{h}{\Lambda}\right) c^1 \]

Mass, Light

5% of the energy in the universe
Dark Energy as a New Base Energy Tier

\[ E = (m) c^2 \quad \text{Mass} \]
\[ E = \left(\frac{h}{\Lambda}\right) c^1 \quad \text{Light} \]
\[ E = \left( \text{Dark Energy} \right) c^0 \]

New Base Energy Tier
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\[ E = ( m ) c^2 \quad \text{Mass} \]
\[ E = (h/\Lambda) c^1 \quad \text{Light} \]
\[ E = (\text{Dark Energy}) c^0 \quad \text{Spacetime} \]

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$E = \left( \frac{|x|}{(1-|x|)} \right) c^0$

Compressing spacetime’s structural component require energy...
“Dark Energy”.

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Alignment of spacetime’s structural component before the Big Bang

Alignment of spacetime’s structural component after the Big Bang

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\[ E = (m) c^2 \quad \text{Mass} \]
\[ E = \left( \frac{h}{\Lambda} \right) c^1 \quad \text{Light} \]
\[ E = \left( \text{Dark Energy} \right) c^0 \quad \text{Spacetime} \]
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\[ E = (m) c^2 \quad \text{Mass} \]

\[ E = (\frac{h}{\Lambda}) c^1 \quad \text{Light} \]

\[ E = (\text{Dark Energy}) c^0 \quad \text{Spacetime} \]

Responsible for the Law of Conservation of Energy
Energy Unites Everything In the Universe

Hierarchy of Energy unites the three energy tiers

$$E_G = m_G c^G$$

...where the energy tier denoted by $G$ can only have the values of 0, 1, or 2.
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The speed of light is a relative constant

\[ E = \left(\frac{h}{\Lambda}\right) c^1 \]

\[ E = \left(\text{Dark Energy}\right) c^0 \]
“According to general relativity, space is endowed with physical qualities; therefore, there exists an ether. Space without ether is unthinkable; for in such space there would be no standards of (distance) and time.

Einstein was on the right track!
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\[ E = mc^2 \]
General Relativity

\[ E = (\hbar/\Lambda)c^1 \]
Quantum Mechanics

\[ E = \left( \frac{|x|}{(1-|x|)} \right) c^0 \]
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Everything In the Universe is About Energy

$$E_G = m_G c^G$$

...And Hierarchy of Energy Theory tells us how to make sense of it

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“We can't solve problems by using the same kind of thinking we used when we created them.”

~ Albert Einstein
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What we usually see is particles that contain mass capturing and releasing light energy. This process does NOT change the energy tiers of the energies involved.

\[ E^2 = \left( \frac{\hbar}{\lambda} c \right)^2 + (mc^2)^2 \]
Dark Energy as a New Base Energy Tier

\[ E^2 = \left( \frac{\hbar}{\lambda} c \right)^2 + (mc^2)^2 \]

\[ E^2 = (pc)^2 + (mc^2)^2 \]
DARK ENERGY’S ROLE IN GENERAL RELATIVITY

...“Something” that is “New and crazy and powerful and different...”

... NOT A PARTICLE!!!

...But the building block component “Entity” of spacetime
Distance, directions, time, and dimensions do not exist yet...
Geometry and trigonometry do not exist yet...
Spacetime does not exist yet...

We cannot apply our “usual” math to this entity.
Consider an infinite line of these “entities”, equally spaced.
A “space” contains an entity’s entire scalar field from 0 to $\infty$.

This “space” is defined as a quantum distance (Qd).
A Quantum distance (Qd) is a “collective” property of all the entities along the infinite line.

Distance is composed of Qd’s where a Qd can start at any point on the line.
Compressing the entities require energy...

“Dark Energy”.

Quantum distances (Qd) are “relative” to the amount of Dark Energy present.
The speed of light through spacetime is defined as: \( \frac{1}{1(\text{Quantum distance})/1(\text{Quantum time unit})} \)
The speed of light is a \textit{relative constant}, relative to the amount of Dark Energy in the spacetime it traverses.

The speed of light is defined as the speed in which energy moves through energy.
The relative amount of Dark Energy required to compress entities along a line can be derived.
DARK ENERGY’S ROLE IN GENERAL RELATIVITY

We can substitute \((Qt)c\) for \(Qd\)

\[
E = \frac{|x| \cdot Qt \cdot c}{(1 - |x|) \cdot (Qt) \cdot c}
\]

\(Qt\) is a constant and cancels out:

\[
E = \frac{|x| \cdot c}{(1 - |x|) \cdot c}
\]

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