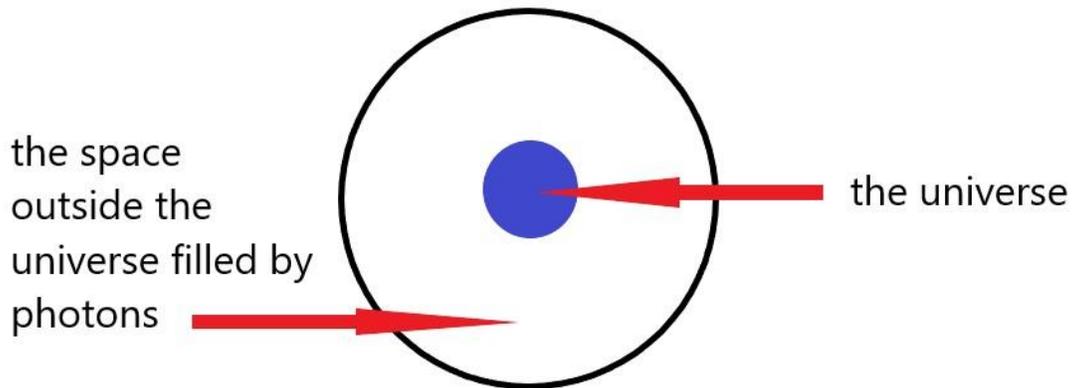


Outline on
“The dark energy is the gravitational force
between the photons outside the universe and the universe”

By Max Gaofei Yan

1. The universe and its outside space filled by photons.



The blue part is the current expanding universe with matter of mass.

Since EM waves/Photons emitted by the universe travel at the speed of light, and the universe itself expands at a slower speed, the space outside the universe is filled by photons.

In the above illustration, the space between blue part and the circle is the space where EM waves/Photons have filled up.

2. According to a new study, there is gravitational force between matter with mass and photons, or between photons.

“Unified Field Theory for Gravity and Electromagnetism and Its Explanation for Dark Matter Observations” by Max Gaofei Yan

<https://zenodo.org/record/4057270#.X61Kn1BOnIW>

Cited: Yan, Max Gaofei. (2020, March 27). Unified Field Theory for Gravity and Electromagnetism and Its Explanation for Dark Matter Observations. Zenodo.
<http://doi.org/10.5281/zenodo.4057270>

Gravitational Forces Between Matter with Mass and EM Waves

$$F = Y_2 k \frac{f m}{r^2}$$

Where:

F – is the force between a point in an EM wave and an object with mass [kg m s⁻²]

Y₂ – is a constant [4.91e-61 m³ s⁻¹]

r – is the distance between a point in the EM wave and an object with mass [m]

f – is the frequency of a photon [s⁻¹]

m – is the mass of an object [kg]

k – is the number of photons at a point in the EM wave

Gravitational Force Between Two EM Waves

$$F = Y_1 \frac{k_1 f_1 k_2 f_2}{r^2}$$

Where:

F – is the force between two points of two EM waves [kg m s⁻²]

Y₁ – is a constant [3.61e-111 m³ kg]

r – is the distance between a point in EM wave 1 and EM wave 2 [m]

f₁ – is the frequency of a photon in EM wave 1 [s⁻¹]

f₂ – is the frequency of a photon in EM wave 2 [s⁻¹]

k₁ – is the number of photons at a point in EM wave 1

k₂ – is the number of photons at a point in EM wave 2

3. Hence Photons/EM Waves in the outside space of universe exert gravitational force on the matter with mass and photons in the universe, which is manifested as a pulling force in all directions to the universe. That is the extra force which makes the universe expanding faster than expected by current mainstream physics theory.
4. The numbers of photons outside the universe increases with time, according to new gravity equations above, so the pulling force is getting stronger. That is the reason why the expansion of the universe is accelerating.
5. The Dark Energy, which is a hypothesis used to explain why universe expand, is actually gravitational force between the universe and photons outside of it. (Dark matter is also the gravitational effect by photons/EM waves, as explained in the above cited paper).
6. Some predictions based on this new gravity theory on the universe:

There could be a critical point at which the universe stops expanding due to an increase in the “Dark Matter” in the universe. When this “Dark Matter”, which is EM waves/photons, reaches outside the universe, the universe starts expanding again.

When the universe stops producing photons, the photons outside of the universe will gradually move away. This will weaken the gravity force that expands the universe. Eventually, the photons outside the universe will not provide enough force to maintain expansion, and at this critical point, the universe will collapse from the gravity force of its own matter with mass.
7. Further discussion on this new gravity theory and General Relativity Theory.

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