DOI: https://doi.org/10.24297/jap.v22i.9605

Sayed`s Theory of Dark Energy and Dark Matter Forces Nature

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Abstract;

Allah (God) is the Creator of the wonderful accelerated expansion universe. The nature of Dark energy (DE) and matter (DM) is enigmatic mystery of the modern astrophysics. This article is a theory establishes the nature and laws of DE and DM forces. They are among the forces controlling the universe harmony and homogeneity. The derived equations were based on the published Sayed quantum gravity force formula. The *Sayed`s Dark energy force (SDEF)* formulas indicate that they are function in quantum gravity force (F_{QG}), energy density(ρ), cosmological (*Λ)*, Hubble (H), and Planck (h) constants**.** The formulas were verified and validated. For Planck and cosmos scales, the Dark energy force, energy density, and *Λ* were calculated and found to be 2.538×10^{84} N, 10^{-26} Kg/m^3, and 10^{-52} m^{-2} respectively. These values are in high concordance with the declared values. The results obtained show that the DE force represents more than ¾ of the universe forces as the observations. The disputed Hubble constant was also calculated and found to be in the range; -2.2×10^{-18} s^{-1}. It can also be stated and emphasized that the light speed violation ($E \neq mc^2$) is a must to solve the DE nature and many other universe mysteries.

Keywords: Sayed`s Force of dark energy and matter, New theory and laws of dark energy and matter.

Introduction

It can be stated that understanding the dark energy (DE) and dark matter (DM) are one of the hardest challenges to the present-day Physics and cosmology (1,2,3). Whatever dark matter is, it is beyond our current understanding of physics. But it still has mass, so it still has gravity (4). The fact that dark matter is effectively invisible means these small, bright galaxies in the early universe would make a good proxy by which to test the cold dark matter concept; failure to detect them may mean scientists have to turn to other theories (5). Dark energy, meanwhile, is the name we give the mysterious influence driving the accelerated expansion of the universe (6). Since the discovery of the accelerating expansion of our universe in 1998, studying the features of dark energy has remained a hot topic of cosmology (7).

This article is an outstanding theory to explain, for the first time, nature of the dark energy and dark matter and their correlation to be integrated in the final equation of my published theory of everything (S-TOE).

II. Survey and Literature

This part of the article is a survey for what have been published worldwide concerning DE and DM.

- The term "missing matter" was used by Swiss-American astronomer Fritz Zwicky in 1933 to describe the discovered kind of stuff known as "dark matter". When Vera Rubin and W. Kent in 1970 noticed that our galaxy's spiral is proportionate to 10 times more matter than we can see or calculate, a similar observation, which led to the discovery of dark matter (8).
- Dark matter does not interact electromagnetically. It is still affected by gravity. It is denser near the center of the galaxy, by a factor - 100 or more. It can't form structures. The average density of dark matter over the entire universe is estimated to be 2.2×10^{-27} kg/m^3 (9)
- Some believe that Landauer's principle, which dictates the physical nature of information, is raising a startling possibility: that dark matter might be information itself (10).
- Astrophysicists largely agree that dark matter explains a variety of strange phenomena, such as the observation that galaxies rotate faster than they ought to. A minority deny the existence of dark matter and embrace MOND (Modified Newtonian Dynamics) to explain the observations (11).
- The existence of dark matter has been confirmed by a series of observations, including in the recent pictures; the James Webb Space Telescope (CERN- ATLAS experiment- LHC) (12).
- A published theory shows that the dark energy to dark matter ratio should equal to π (2).

- PRIYA simulations, analyzing quasar light shows that the gas lumpiness indicates the presence of dark matter (13).
- The calculated distribution of dark matter as given by the European Space agency is shown in figure 1 (14).

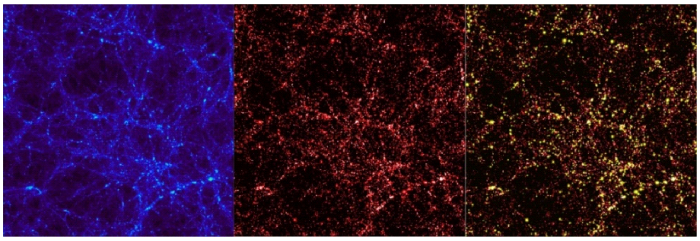

Fig.1: The calculated distribution of dark matter

- The first ever image of dark matter and map shows the locations of bright galaxies; white regions, and the presence of a dark matter filament bridging the galaxies is shown in red (15).

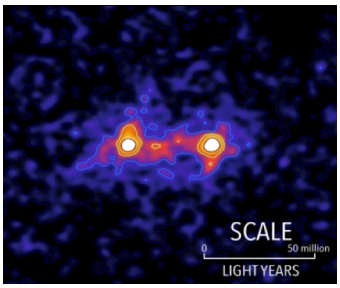

Fig.2: First-ever image of dark matter (RAS/ S. Epps & M. Hudson / University of Waterloo).

- Dark matter makes up over 80% of the mass of every galaxy and cluster of galaxies in the universe. Symmetries in the laws of nature that make dark matter a twin of normal matter. For example, it could also have a dark matter version of that same structure, with a dark proton bound to dark electrons via dark photons: dark atoms (16).
- The non-baryonic dark matter candidates can broadly be grouped into two categories, depending upon their respective masses and speeds: (1) Hot Dark Matter (HDM) and (2) Cold Dark Matter (CDM). The CDM is composed of substantially massive particles expected to be moving at sub relativistic speeds, whereas HDM consists of particles with zero or nearly zero mass which are expected to be moving nearly at the speed of light (1)
- Most scientists think that dark matter is composed of non-baryonic matter. The lead candidate, WIMPS (weakly interacting massive particles), are believed to have ten to a hundred times the mass of a proton, but their weak interactions with "normal" matter make them difficult to detect. Neutralinos, hypothetical particles heavier and slower than neutrinos, are the foremost candidate, though they have yet to be spotted the smaller neutral axion and the uncharged photinos, both theoretical particles, are also potential placeholders for dark matter (17).
- There are two main ideas about what dark matter might be:

  1. WIMPs. These are theoretical particles much like neutrinos. WIMPs have some mass, but barely interact with the rest of the Universe.

  2. MAssive Compact Halo Objects (MACHOs). These could be objects much like Uranus or Neptune, but so cold that they don't emit light of their own/or small black holes. (18).
- A paper considers the dark energy as a barotropic fluid, with the equation of state a constant as well the case where dark energy equation of state is a function of time (19).
- Alan Guth and Alexei Starobinsky proposed in 1980 that a negative pressure field, similar in concept to dark energy, could drive cosmic inflation in the very early universe. Dark energy's density is very

low: 6×10^{-10} J/m^3 ($\approx7\times10^{-30}$ g/cm^3), much less than the density of ordinary matter or dark matter within galaxies (20)

- The spatial flatness and accelerated expansion are most easily explained by assuming that the universe is almost entirely filled with just three constituents, namely visible matter, Dark Matter (DM) and Dark Energy (DE), with densities ρvis, ρ_{DM} and ρ_{DE}, respectively. It is the large amount of DE which causes the accelerated expansion (3)
- The SNLS reveals that the average behavior of dark energy behaves like the cosmological constant to a precision of 10%. Recently dark energy has been present for at least 9 billion years (7B yr. in other work). Cosmologists estimate that the acceleration began $5x10^9$ years ago (20).
- The acceleration of the cosmic expansion requires that nearly three-quarters of the energy of the universe is in a component with a negative pressure, namely dark energy (19).
- The nature of dark matter, this invisible material outnumbers ordinary matter particles by a ratio of 5 to 1. The cosmological constant still varies with time, but in a model that variation is due to changing particle mass over time, not the expansion of the universe. The fluctuations in the field could also behave like a so-called axion field. In this model, "there is no need for dark energy (21).
- May be dark energy is not a cosmological constant but instead the result of gravity working in new ways. The dark energy acts differently at different times in the universe. The authors also tested interacting dark energy-dark matter models, where dark energy interacts with dark matter, and modified gravity models, where gravity acts differently at different times (22).

III. Mathematical Derivation of Sayed`s Dark Energy and Matter Forces (SDEF, SDMF)

III-a) 1st Approach

The following assumptions are considered to elucidate the formulas that define the nature of dark matter and energy forces:

- *Speed of light is not the maximum speed in the universe; it is a variable.*
- *Dark matter and energy are forces; attractive as gravity and repulsive as anti-gravity*
- *Circulation and rotation of the universe itself and all its components (e.g. fabric, galaxies, ….)*
- *They similar to centrifugal and centripetal forces acting in the opposite direction (inward/outward).*
- *Quantum gravity is a Force and correlated with dark energy and matter forces*
- *Accelerated Expansion of the universe might be due to; centrifugal force ≠centripetal forces*

Based on Sayed`s quantum gravity force formula as expressed in the following equation (23):

$$F_{QG} = 16\pi^2 l_p^2 h c / \lambda^2 r^2 \quad \ldots\ldots 1$$

Where, l_p , h, c , λ and r are Planck length, Planck constant, light speed, wavelength and distance between masses respectively. Equation 1 can be rewritten as

$$r^2 = 16\pi^2 l_p^2 h c / F_{QG} \lambda^2 \quad \ldots\ldots 2$$

By using Sayed unified acceleration equation (24).

$$As = (\Lambda/\rho). (1/8 mc^2). (1/ \pi d^2) \quad \ldots\ldots 3$$

Where, A_s, Λ, ρ, m, c and d are Sayed acceleration, cosmological constant, energy density of vacuum, mass, speed of light and distance between centers of the two masses respectively. Considering r = d in equation 2 and 3 and substitution in each other, one gets;

$$As = (\Lambda/\rho). (1/8 mc^2). (1/ \pi 16\pi^2 lp^2 h c / F_{QG} \lambda^2) \quad \ldots\ldots 4$$

$$As = (\Lambda/\rho). (1/8 mc^2). (F_{QG} \lambda^2 / 16\pi^3 l_p^2 h c) \quad \ldots\ldots 5$$

Considering Newton formula; F=ma or a =F/m, where F in this case is the Dark Energy force (F_{DE}) and supposing the newton acceleration (a) equal to Sayed acceleration (A_s) in equation 5 , one gets"

$F_{DE}/m = (\Lambda/\rho).\ (1/8\ mc^2).\ (F_{QG}\ \lambda^2/16\pi^3\ l_p^2\ h\ c)$ *6*

$F_{DE} = (\Lambda/\rho).\ (F_{QG}\ \lambda^2)\ (m^2c^2)./\ 128\pi^3\ l_p^2\ h\ c$ *7*

With rearrangement of equation 6 to be 7 and with substitution the value; $m^2 = h^2/\ \lambda^2c^2$, it produces;

$F_{DE} = (\Lambda/\rho).\ (F_{QG}\ \lambda^2)\ c\ h^2./\ 128\pi^3\ l_p^2\ h\ \lambda^2\ c^2$ *8*

$F_{DE} = (F_{QG})\ (\Lambda\ h/\rho.\ c)./\ 128\pi^3\ l_p^2$ *9*

$F_{DE} = (F_{QG})\ (\Lambda\ h)/\ 128\pi^3\ c\ \rho\ l_p^2$ *10*

It can takes the form; **$F_{DE} = S_f F_{QG}\ (\Lambda/c)$,** *where* (**$S_f$**) *is* ***Sayed`s dark energy constant***

By substituting value of Sayed quantum gravity force of equation 1 in equation 10, one gets

$F_{DE} = (16\pi^2\ l_p^2\ h\ c\ /\ \lambda^2\ r^2)\ (\Lambda\ h)./\ 128\pi^3\ c\ \rho\ l_p^2$ 11

Finally, the Dark energy force can be deduced to be:

$F_{DE} = 0.125\ \Lambda\ h^2/\ \pi\ \lambda^2\ r^2\ \rho$ 12

This equation is called Sayed Dark energy force (**SDEF**) formula. Using our DE/DM ratio which is equal to π ; 3.14159 (2), the Dark matter force (F_{DM}) is expressed as;

$F_{DM} = (1/\ \pi)\ (F_{QG})\ (\Lambda\ h)/\ 128\pi\ c\ \rho\ lp^2$ 13

$F_{DM} = 0.125\ \Lambda\ h^2/\ \pi^2\ \lambda^2\ r^2\ \rho$ 14

This formula; equation number 14, is called Sayed Dark matter Force (**SDMF**). Based on the equation 10 12 and 14, it can be observed the following conclusions:

- *The Dark energy and Dark mater forces are correlated with the quantum gravity force*
- *They are also directly correlated with cosmological constant and Planck constant*
- *They are also inversely correlated with Planck length square, light speed and energy density*
- *They are also inversely correlated with square of wavelength and distance*

An article found that Dark energy and dark matter are in a ratio 2/ln2. The ratio of dark energy to the total mass energy of the cosmos is ln2 (25).

III.b). Friedman equation and Sayed Dark energy force (SDEF).

Based on the derived SDEF formula and the Friedman equation (Fig.3), a correlation between the cosmological constant, Hubble constant and Sayed Dark energy force can be deduced.

$$H^2 = \overbrace{\frac{8\pi G}{3}}^{\text{matter density}}\rho - \overbrace{\frac{kc^2}{R^2}}^{\text{curvature}} + \overbrace{\frac{\Lambda}{3}}^{\text{dark energy}}$$

H = Hubble's constant
c = speed of light
G = gravitational constant
ρ = matter density of the Universe
k = curvature of the Universe
Λ = cosmological constant
R = radius of the Universe

Fig. 3: Friedmann equation correlating Gravitational, Hubble, and cosmological constants (26)

For the flat universe, the abovementioned Friedman equation (Fig.3) can be reduced to be;

$3H^2 = \Lambda$ 15

Also, for Flat universe, the energy density in the universe is equal to the critical density ($P_{critical} = P_{vis} + P_{DE} P_{DM}$). So, the Friedmann equation can also be expressed as:

$P_{critical} = 3H^2/8\ \pi\ G$ 16

By substituting equation 16 in equation 12, it produced:

$F_{DE} = (0.125).\ (8\ \pi\ G\ \Lambda\ h^2)/\ 3\pi\ \lambda^2\ r^2\ H^2$ *17*

Finally, the, correlation of the ***Sayed Dark energy force with Hubble and cosmological constant*** is obtained as follow:

$F_{DE} = \Lambda\ h^2\ G/\ \lambda^2\ r^2\ H^2$ *18*

Based on this equation number 18, it can be observed that:

- *Sayed dark energy is directly proportional to the cosmological, Planck and gravitational constants.*
- *Sayed dark energy is inversely proportional to square of wavelength, distance and Hubble constant.*

III-b) 2nd Approach

The Centripetal means 'center seeking', so centripetal force is used to refer to the force experienced by an object traveling in a circle. The centripetal force (F_c) is defined (the centripetal acceleration; a =v^2/R) as given in the next equation (27)

$F_c = ma = mV^2/R$ 19

Where, m, v and R are mass of object, its speed and distance (radius of circular path) respectively. With rewrite equation19 to be:

$R = mV^2/F_c$ 20

By substituting equation 20 in Sayed quantum gravity force given in equation 1(23) , one gets:

$F_{QG} = 16\pi^2\ l_p^2\ h\ c\ /\ \lambda^2\ (mv^2/\ F_c)^2$ 21

$F_{QG} = 16\pi^2\ l_p^2\ h\ c\ F_c^2/\ \lambda^2\ m^2v^4$ 22

Suppose v ≈ c , equation 22 can be expressed as

$F_{QG} = 16\pi^2\ l_p^2\ h\ F_c^2/\ \lambda^2\ m^2c^3$ 23

The Dark matter force (F_{DM}) which has attractive nature; similar to the centripetal force (F_c) acting inward as gravity can be given with rearrangement of equation 23 to be;

$F^2_{DM} = F_{QG}\ \lambda^2\ m^2c^3/16\pi^2 l_p^2\ h$ 24

$F_{DM} = \sqrt{F_{QG}}\ \lambda^2\ m^2c^3\ /16\pi^2 l_p^2\ h$ 25

$F_{DM} = \lambda\ mc/4\ \pi\ l_p\ \sqrt{F_{QG}}\ c\ /\ h$ 26

By substituting the equation 1 in equation 24, one gets

$F^2_{DM} = (16\pi^2\ l_p^2\ h\ c\ /\ \lambda^2\ r^2).(\lambda^2\ m^2c^3/16\pi^2 l_p^2\ h\ )$ 27

$F^2_{DM} = m^2c^4\ /\ r^2$ 28

By substituting the value; $E^2 = m^2\ c^4$, in equation 28, one gets

$F_{DM}^2 = E^2/\ r^2$ 29

$F_{DM} = E/\ r$ 30

It can also be expressed in other form by substituting the value; E=hc/λ , in equation 30 as;

$F_{DM} = hc/\ \lambda\ r$ 31

Using equation 25, the Dark energy force (F_{DE}) which is acting against the Dark matter force (F_{DM}) can be expressed as follow, taking into consideration the abovementioned ratio between dark energy and dark matter; π (2);

$F_{DE} = \pi \sqrt{F_{QG}}\, \lambda^2 m^2 c^3 / 16\pi^2 l_p^2 h$.....**32**

Based on the derived equation 25 and 31 and 32 it can be concluded the major following points :

- *Dark energy and Dark matter are forces acting against each other (e.g gravity and antigravity and similar to centripetal and centrifugal forces)*
- *The Dark energy force is stronger than Dark matter force by 3.14 time (π ratio)*
- *They are directly correlated to square root of the quantum gravity force, light speed and Planck constant, wavelength, mass and speed of light*
- *They are inversely correlated to the Planck constant and Planck length*

An article describes the derivation of a formula for calculation of dark energy. The result is tested on the basis of the available data from the MAX PLANCK Institute for Radio Astronomy (29). A component of the dark energy can be represented by the vacuum of axion-like particles mixed with photons and super partners of neutrinos (30). A modified ΛCDM cosmology model indicates that continuously-created negative masses can resemble the cosmological constant and can flatten the rotation curves of galaxies. The repulsive negative masses would behave as a dark fluid. (31)

III.c). The Final form of the Sayed theory of everything (S-TOE):

Based on the derived Dark energy and Dark matter forces formulas, the final formula of Sayed theory of everything (S-TOE) (28) can be given as follow:

$F_{total} = \Sigma F_6 = \Sigma\ (F_{gravity} + F_{weak} + F_{electromagnetic} + F_{strong} + F_{dark\ matter} + F_{dark\ energy})$.....33

$a\ h/\lambda\ c. = \Sigma\ (F_{gravity} + F_{weak} + F_{electromagnetic} + F_{strong} + F_{dark\ matter} + F_{dark\ energy})$ 34

$(a.h/c\ \lambda) = \Sigma\{(G.m_1\ m_2/d^2) + (g^2\ e^{-\alpha m r}/r^2) + (K_e\ q_1 q_2/d^2) + (\alpha/r^2 + \sigma)\} + (0.125\ \Lambda h^2/\pi^2 \lambda^2\ r^2 \rho) + (0.125\ \Lambda h^2/\pi \lambda^2\ r^2 \rho)]$.....35

It is evidence that the universe operates in ways that physicists do not fully understand; an experiment supports the idea that dark energy is a fundamental property of a space. Studying supernovae has given the most solid evidence yet that dark energy is constant throughout the cosmos, unchanging with space or time (32). If the dark energy density is a constant, that means the total proportion of dark energy must be increasing as the volume increases. While, ΛCDM assumes the density of dark energy is constant and doesn't dilute as the universe expands. There are tantalizing hints that dark energy changes with time, consequently, a more complex explanation might be needed (33).

IV. Verification and Validation of the SDEF and its Parameters.

The dark energy and dark matter forces formulas with the correlated parameters were validated by units and calculation some of these parameters and constants;

IV.a). Units Check of SDEF Equation:

$F_{DE} = F_{QG}\ (\Lambda\ h) / 128\pi^3\ c\ \rho\ l_p^2$.....10

N = N (j.s) (1/m²) / (kg/m³)(m/s) (m²)

N = N (N.m.s) (1/m²) (m³/kg) (s/ m) (1/ m²)

N = N (N.) (s²/ kg m)

N = N. N. (1/N) = N

Newton = Newton

IV.b). Units Check of Equation:

$F_{DE} = \Lambda\ h^2\ G / \lambda^2\ r^2\ H^2$.....*18*

$N = (1/m^2)(m^2 kg/s)^2\ (m^3/kg\ s^2) / (m^2 \cdot m^2).\ (s^{-1})^2$

N =N

IV.c). Units Check of Equation:

$F^2_{DM} = F_{QG}\ \lambda^2 m^2c^3/16\pi^2lp^2\ h$.....25

$N^2 = N\ .\ (m^2)\ (Kg^2)\ (m^3/s^3)\ /\ m^2\ .\ J.s$

$N^2 = N\ .\ (m^2)\ (Kg^2)\ (m^3/s^3)\ /\ m^2\ .\ N.m.s$

$N^2 = Kg^2\ m^2/s^4 = (Kg\ m/s^2)\ .\ (Kg\ m/s^2)$

$N^2 = N^2$

IV.d). Calculation of the Derived SDEF Equations Parameter

The calculations were carried out for validation and verification of the derived equations using the Planck and cosmos scales and parameters as given in the following tables:

Table 1: The calculated parameter using the derived Sayed Dark energy force (SDEF) equation

Parameter	Planck Scale value	The calculated values by SDEF formula	Comments
Force	$1.21 X 10^{44}$ N	0.0213×10^{-6} N	DE has low effect on Planck scale
F_{Planck} / F_{SDEF}	-	5.682×10^{39}	Planck force > 10^{39} F_{SDEF}
Planck constant	6.626×10^{-34} J.s	-6.6236×10^{-34} J.s	identical to the declared value
Wavelength	5.602×10^{-9} m	-5.6037×10^{-9} m	Identical to the declared value
Cosmological constant	Big Blunder	$- 0.99 \times 10^{-52}$ m^{-2}	Identical to the declared value

As shown in the table 1, the Planck parameters and constants (e.g. Planck wavelength ,...) were precisely calculated by using SDEF formula and found to be in very good concordance with the published values. It can also be observed that SDEF is lower than the Planck force; the ratio is 5.682×10^{39}. This is logic and acceptable where the Dark energy force acts on the large cosmological/macroscopic scale.

An interesting article suggests a specification for dark matter and modeling regarding dark-energy phenomena. It includes predications and suggesting a mechanism that might convert some energy associated with one of ordinary matter and dark matter to energy that would associate with the other one of ordinary matter and dark matter (34). A recent article found that J0613+52 has no stars. The most unusual thing about objects like this one is that dark matter appears to dominate their compositions. If J0613+52 is like others, it could have up to 95 percent dark matter constraining the neutral gaseous hydrogen that we can detect (35) Authors of an article show that *MOND offers an alternative to dark matter in seeking to explain the failure of Newtonian physics in describing galaxies (36).*

The SDEF formula was also used to calculate some universal constants and correlation for the cosmological scale as shown in table 2.

Table 2: The calculated force for different light speed values using SDEF equations

Parameter	Different light speed	The calculated Force by SDEF formula	Comments
Light speed	$3x10^8$ m/s (Einstein speed)	$2.057x10^{103}$ N	DE force is comparable to universe Force; 9.64×10^{104} N – Not logic
	$2.4x10^9$ m/s	$2.5679x10^{102}$ N	DE is comparable to universe Force
	$3.93x10^{27}$ m/s	$1.568x10^{84}$ N	**> ¾ the universe forces as observed - logic**

It can be observed that the calculated Force of dark energy is the major force in the universe as globally published; it is more than ¾ of the universe forces. This fact necessities violation of the light speed limit; $E=mc^2$.

The next table 3 shows results of the calculations of other major correlated parameters by using the derived SDEF equations – cosmos scale.

Table 3: The calculated parameters using the derived SDEF equations – cosmos scale

Parameter	Published Cosmos Scale	The calculated value by SDEF formula	Comments
Cosmological constant	1×10^{-52} m^{-2}	0.998×10^{-52}	Almost the same value
Energy density	10^{-26} kg/m^3	1.00×10^{-26}	Almost the same value
Light speed	3×10^{8} m/s	3.936×10^{27}	**Violation of $E=mc^2$**
Hubble constant	2.3×10^{-18} s^{-1}	2.2×10^{-18} s^{-1}	Matched with debated Hubble range
$F_{universe}/ F_{Planck}$	-	7.965×10^{60}	-
$F_{universe}/ F_{SDEF}$	-	3.798×10^{20}	Within the current observed axiom

The calculated results indicate identically values with worldwide published numbers. The slight difference (1Mparsec= 3.08567×10^{22} meter) with the disputed Hubble constant reflects the accuracy of our formula.

The dark energy is a form of energy inherent to space itself. As the Universe expands, dark energy doesn't dilute, but rather remains at a constant density (37). A dark dimension scenario offers a specific recipe for dark matter, and it suggests an intimate connection between dark matter and dark energy. The scenario "allows us to make connections between string theory, quantum gravity, particle physics and cosmology (38) The universe is expanding faster and faster, but not all scientists agree that dark energy is the cause. Perhaps, instead, our universe keeps colliding with and absorbing smaller 'baby universes,' a new theoretical study suggests (39). The cosmological constant was rejected as unnecessary after the discovery of cosmic expansion. However, at the turn of the century, Λ came back as two groups of cosmologists announced to have discovered an acceleration of cosmic expansion. The fact is that Λ has the power to do that also (40). A recent theory entitled unity of the Universe was given by Sayed`s Golden equation that is correlating dark matter, dark energy, hydrogen and helium ratio in one formula (41) A recent study shows that dark energy does not exist and the universe is ~27 $\times 10^9$ yr. old (42).

Conclusion

It can be stated that this article is a challenging theory introduces and describes for the first time the nature of Dark energy and matter forces with the correlated parameters. Uniquely, the Sayed`s Dark energy force (SDEF) formula correlated with the quantum gravity force, cosmological, Hubble and Planck constants and the energy density was given and quantified. The SDEF that accelerates the universe expansion was calculated and found to be (2.538×10^{84} N) more than the ¾ of the total published forces in the universe (9.64×10^{104} N). The calculated Hubble constant shows almost no difference with this globally debatable constant. The calculations conclude the *necessity of the light speed violation; $E \neq mc^2$, to explain different mysteries in the universe.*

Acknowledgement

Allah; God, the Great Creator; How wonderful the universe is. It is unimaginable, unthinkable and puzzling. I know that expansion of the universe is clearly stated in your Holy Qur'an of Prophet Mohamed 1445 years ago. While the expansion and acceleration (in 1998) of the universe was recently discovered by genius scientists.

Conflict of interest

There is no any conflict of interest with anyone concerning this article.

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Biography

Prof. Sayed Ali El Mongy is the slave of Allah, the Creator of this wonderful accelerated universe. He had been working for Ph.D in Germany using TRIGA reactor for (n, γ) and (n, fission) reaction for assay of ^{235}U and ^{238}U by the induced gamma and delayed neutrons in different matrices. During his Ph.D. study, He found and suggested as single author a tantalizing paper entitled "Is it true that ^{210}Po is fissioned by Anti-neutrino", He participated in training, conferences and meeting all over the world; USA, Canada, Russia, all EU states and most of Arab league states. He worked as an expert for the IAEA committees; e.g. IRRS mission and NSGC.