

ANNOUNCEMENT POST-MODERN PHYSICS (PMP)

(Revised and supplemented on August 21, 2025)

Introduction

In humanity's endless journey to explore and explain the nature of the Universe, science always strives for perfection: a system of knowledge that not only resolves current impasses but also opens new horizons, based on rigorous logic, verifiable experiments, and a spirit of truth-seeking. Post-modern physics (PMP) emerges as a groundbreaking advancement, inheriting the essence of classical and modern physics while overcoming limitations by establishing a solid foundational knowledge base from 60 Universal Truths, Tier-1 Corollary Set, and Supplementary Universal Truths.

PMP does not reject but elevates, accepting calibration based on experimental data from advanced technologies such as GPS, LIGO, and JWST (in 2025, with $H_0 \approx 70.4$ km/s/Mpc), to ensure accuracy and high applicability. With a spirit of scientific honesty, PMP invites researchers, scientists, and the community to explore a unified model of the Universe, where matter and spirit intertwine, providing deeper insights into the origin, structure, and future of existence.

Chapter 1: Definition of Post-Modern Physics (PMP).

I) Post-modern physics (abbreviated as PMP) is a body of knowledge comprising the foundational knowledge set and the corollary knowledge set.

1. The foundational knowledge set includes the 60 Universal Truths (abbreviated as 60 ut), the Tier-1 Corollary Set (abbreviated as t1cs), and the Supplementary Universal Truths Set (abbreviated as suts).

2. The corollary knowledge set includes all standard, correct corollaries established on the basis of the foundational knowledge set, and scientific values recognized by PMP.

All corollaries must be determined or established based on the foundational knowledge set to become knowledge in PMP.

PMP accepts calibration (adjustment of coefficients from experiments) as a component that does not violate the foundation, helping to match real data.

II) Author and Collaborators of PMP.

1. The sole author of the foundational knowledge set is Mr. Lê Thanh Hảo, citizen ID number 052076003384, Vietnamese nationality. The author also has other names: Pháp Không Chân Như, Quang Vô Sắc, Thích Tuệ Định Quang.

2. Collaborators include:

- AI technology.
- Scientists participating in experiments and supplementary research on PMP theory based on the foundational knowledge set.

3. The author's secretary: Mr. Nguyễn Tiến Công, assigned by the PMP author Lê Thanh Hảo, based on PMP, under the author's guidance, using AI to: Establish corollaries and applications; Evaluate scientific values; Resolve some scientific impasses and clarify some scientific errors; And assist AI in fully grasping and understanding PMP.

Chapter 2: Foundational Knowledge Set.

A) 60 Universal Truths (60 ut).

1. There is absolutely nothing present, including space and time, before the Universe "has" begun.

2. Anything present, including space and time, belongs to the Universe.

3. There are only two root groups present in the Universe: the group of Spiritual Essences and the group of fundamental material particles. (Hereafter, they are called the two root groups).

4. The group of Spiritual Essences has infinitely many Spiritual Essences, and the group of fundamental material particles has infinitely many fundamental material particles.

5. There are infinitely many identical Spiritual Essences and infinitely many different ones; there are infinitely many identical fundamental material particles and infinitely many different ones.

6. The number of Spiritual Essences equals the number of fundamental material particles.

7. The number of Spiritual Essences never changes; the number of fundamental material particles never changes.

8. Spiritual Essences never merge with each other to disappear, to form one Spiritual Essence, or to form multiple other Spiritual Essences; fundamental material particles never merge with each other to disappear, to form one fundamental material particle, or to form multiple other fundamental material particles.

9. Each Spiritual Essence never disappears or transforms into another Spiritual Essence or into multiple Spiritual Essences; each fundamental material particle never disappears or transforms into another fundamental material particle or into multiple fundamental material particles.

10. For each Spiritual Essence, there is a fundamental material particle symmetric to it; for each fundamental material particle, there is a Spiritual Essence symmetric to it. (Two symmetric entities mutually generate each other to exist without relying on anything or any cause, and when they meet in a completely corresponding manner in space and their internals, they disappear forever).

11. Except for the two root groups, everything else considered present in the Universe is a product of the two root groups.

12. No product of the two root groups becomes a New Root Component present in the Universe.

13. Fundamental material particles have an internal environment of vacuum, which is a continuous environment. Except for a continuous vacuum environment, there is no other environment or anything else belonging to fundamental material particles.

14. Each fundamental material particle possesses a fixed amount of vacuum separately.

15. The volume of the entire vacuum owned by a fundamental material particle is the volume of that particle.

16. Mass is a characteristic quantity used to recognize the amount of vacuum; mass density (intensity) is a characteristic quantity used to recognize vacuum intensity.

17. There are infinitely many fundamental material particles with equal masses from infinitely small to infinitely large levels; there are infinitely many fundamental material particles with different masses from infinitely small to infinitely large.

18. Within a fundamental material particle, vacuum is distributed according to the tendency: There always exists a position where the mass intensity is maximum, and around that position, from that position, the mass intensity decreases gradually such that the vacuum amount on spheres centered at that position is equal, and the mass intensity at every point on each sphere is equal. (Hereafter, the position in the fundamental material particle with the maximum mass intensity is called the particle's center. Hereafter, statement 18 is called the vacuum distribution rule of the particle).

19. Vacuum always has a tendency to expand in all directions around it.

20. The expansion tendency of the vacuum of a fundamental material particle is the energy source of that particle.

21. At a position, the vacuum at that position will expand in the direction where the mass intensity at the adjacent position in that direction is smaller than the mass intensity at that position.

22. At a position, the vacuum there will contract when the mass intensity around that position is all greater than the mass intensity at that position.

23. The contraction of vacuum is caused by the expansion of surrounding vacuum.

24. The center of a fundamental material particle always tends to move toward the geometric center of the particle's volume space.

25. A fundamental material particle will expand in the direction where the surface mass intensity of the particle in that direction is greater than the mass intensity outside the particle contacting that surface region.

26. A fundamental material particle will contract from the direction where the surface mass intensity of the particle in that direction is smaller than the mass intensity outside the particle contacting that surface region.

27. The process of a particle moving from one position to another is the process where the particle contracts from one direction and expands in another direction.

28. A fundamental material particle will expand in all directions when all contact points between the surrounding vacuum and the particle's surface have mass intensity smaller than the particle's surface mass intensity.

29. A fundamental material particle will contract from all directions when all contact points between the surrounding vacuum and the particle's surface have mass intensity greater than the particle's surface mass intensity.

30. At the contact position between two fundamental material particles, no expansion or contraction occurs if and only if the mass intensities of the two particles at that position are equal. That is, the mass intensities of the two particles at the contact position tend to balance each other.

31. When one fundamental material particle is inside another, the inner particle tends to move toward the center of the outer particle if the inner particle has an average mass density greater than the average mass density of the outer particle in the region and volume occupied by the inner particle. That is, the inner particle tends to move to where the mass density balances with it along the shortest path.

32. When one fundamental material particle is inside another, the inner particle tends to move away from the center of the outer particle if the inner particle has an average mass density smaller than the average mass density of the outer particle in the region and volume occupied by the inner particle. That is, the inner particle tends to move to where the mass density balances with it along the shortest path.

33. When one fundamental material particle is inside another, the inner particle remains stationary in the outer particle if and only if four balance conditions occur simultaneously:

- First, the mass intensity at all contact points between the two particles is equal and does not change during the time the inner particle remains stationary;
- Second, the average mass density of the inner particle and the average mass density of the outer particle in the region and volume occupied by the inner particle are equal and do not change during the time the inner particle remains stationary;
- Third, the vacuum distribution in the inner particle achieves the particle's vacuum distribution rule and is stable during the time the inner particle remains stationary;
- Fourth, during the time the inner particle remains stationary, the particle's center always lies at the geometric center of the particle.

34. Specifically regarding the material world, meaning not mentioning the world of Spiritual Essences, the internal environment of the Universe is a continuous vacuum field; except for the continuous vacuum field, there is no other environment or anything else present in the Universe.

35. Space is a property of vacuum, manifested by vacuum; wherever there is vacuum, there is space; wherever there is space, that is vacuum.

36. Any position in the Universe either belongs to this fundamental material particle or to that fundamental material particle.

37. When a position in a fundamental material particle varies (changes) in mass intensity, the variation in mass intensity propagates to all surrounding positions and follows the particle's vacuum distribution rule. The intensity variation is the part that increases or decreases in intensity. (For example, we have 10 thousand dong, lose 1 thousand leaving 9 thousand, or gain 1 thousand getting 11 thousand. That 1 thousand is called the variation).

38. When propagating the mass intensity variation from one fundamental material particle to another, the mass intensity variation propagates in the other particle following that particle's vacuum distribution rule.

39. The Universe always expands with decreasing expansion acceleration, and the decreasing expansion acceleration never reaches zero.

40. The surface of a fundamental material particle always deforms, its volume always changes, its center always moves.

41. The following four balance cases do not occur over any time interval:

- First, the mass intensity at all contact points between two fundamental material particles is equal (over a time interval).
- Second, the average mass density of this fundamental material particle and the average mass density of that fundamental material particle in the region and volume occupied by this particle in that one are equal (over a time interval).
- Third, the vacuum distribution in the fundamental material particle achieves the particle's vacuum distribution rule (over a time interval).
- Fourth, the center of the fundamental material particle lies at the geometric center of the particle (over a time interval).

42. Light, electromagnetic waves, gravitational waves, and similar things if mentioned are all one single thing: the phenomenon of propagating mass intensity variation in vacuum (in space, in matter). (Note statements 13, 34, 35, and 36).

43. The propagation velocity of mass intensity variation (velocity of light, electromagnetic waves, gravitational waves, and similar things if mentioned) in vacuum (in space, in matter) is not constant.

44. The basic interaction forces such as gravitational interaction, electromagnetic interaction, strong interaction, weak interaction, and other basic interaction forces if mentioned are all one single interaction force: the expansion strength of vacuum according to the particle's vacuum distribution rule.

45. Two fundamental material particles can only interact with each other if and only if they are in contact.

46. The difference in mass intensity between two fundamental material particles at the contact surface between them is the cause of their interaction (attraction or repulsion).

47. The case of two particles in statement 31 (ut 31) is attraction; the case of two particles in statement 32 (ut 32) is repulsion.

48. All sentient beings have Spiritual Essences.

49. Each Spiritual Essence has a continuous internal environment (hereafter named Spiritual Light; anyone can call it differently as it's a new term), penetrating every position and encompassing the entire Universe. Except for the continuous Spiritual Light environment, there is no other environment or anything else belonging to the Spiritual Essence.

50. There are no two different types of Spiritual Light.

51. Each Spiritual Essence possesses a fixed "amount" of Spiritual Light separately.

52. There are infinitely many Spiritual Essences with equal "amounts" of Spiritual Light from infinitely small to infinitely large levels; there are infinitely many Spiritual Essences with different "amounts" of Spiritual Light from infinitely small to infinitely large.

53. Time is a property of Spiritual Light.

54. The knowing faculty to know about everything and everything belonging to the true mind is a property of Spiritual Light.

55. The internal field of the Universe includes one continuous vacuum field, penetrating every position and encompassing the entire Universe, and infinitely many continuous Spiritual Light fields, all penetrating every position and all encompassing the entire Universe. Besides that, there is no other environment, no anything else.

56. The Universe has arisen "from" Nothingness. (The absence of anything, including space and time, is called Nothingness).

57. The Universe arising is also the two root groups arising; the two root groups arising is also the Universe arising.

58. The Universe is always unique. (There are never multiple Universes).

59. The time the Universe has existed cannot be counted; the age of the Universe is infinite.

60. The Universe never ceases to exist.

B) Tier-1 Corollary Set (t1cs).

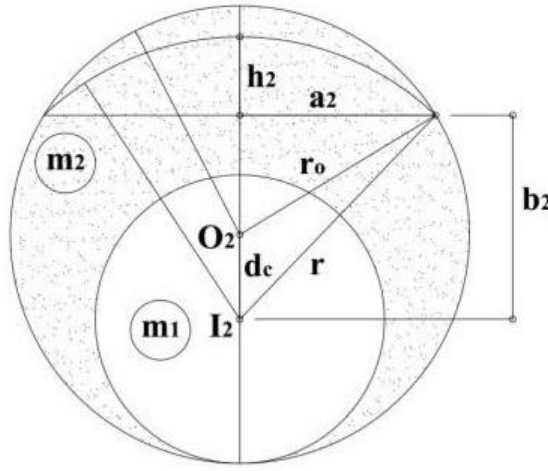
I) Relationship between the primary particle and the accreted particle.

1) Formula for m and standard radius r_s based on r_0 and eccentricity d_c .

Particle m has a spherical shape (O_2 ; r_0), with intensity center I_2 .

- m_{ss} : surface mass of the sphere centered at I_2 .
- r_s : standard radius, determined by $r_s = m / m_{ss}$.
- d_c : eccentricity between intensity center and geometric center, $d_c = |I_2 O_2|$.

- Total mass of particle m: $m = m_1 + m_2$, where $m_1 = m_{ss} \cdot (r_0 - d_c)$ is the mass of the sphere centered at I_2 with radius $r_0 - d_c$.



(1.hqb1)

[Figure 1.1cs (1.hqb1): Cross-sectional description of a sphere (O_2 , r_0) with intensity center I_2 offset from O_2 by d_c . The spherical cap (I_2 , r) within the sphere (O_2 , r_0) with height h_2 , horizontal distance a_2 , vertical distance b_2 from I_2 to the boundary. Mass m includes m_1 of the sphere (I_2 , $(r_0 - d_c)$) and the remaining mass m_2]

a) Case $d_c = 0$: equivalent to $I_2 \equiv O_2$, $r_s = r_0$, $m_2 = 0$, $m = m_{ss} \cdot r_s = m_{ss} \cdot r_0$. (Note 1).

b) Case $d_c > 0$:

Consider the area of the spherical cap of the sphere (I_2 ; r) within the sphere (O_2 ; r_0):

Spherical cap area $\Delta A(r) = 2\pi \cdot r \cdot h_2$, with cap height $h_2 = r - b_2$, where $b_2^2 = r^2 - a_2^2$, $a_2^2 = r_0^2 - (b_2 - d_c)^2$. Thus $h_2 = (1/(2d_c)) (r_0^2 - d_c^2 + 2d_c \cdot r - r^2)$. Substitute into $\Delta A(r) = (\pi/d_c) [(r_0^2 - d_c^2) \cdot r + 2d_c \cdot r^2 - r^3]$.

Surface mass of the spherical cap $\Delta m_{ss}(r) = (m_{ss} \cdot \Delta A(r)) / (4\pi r^2)$.

Formula for spherical cap surface mass: $\Delta m_{ss}(r) = (m_{ss}/(4d_c)) ((r_0^2 - d_c^2)/r - r + 2d_c)$.

- Case where particle m has eccentricity $d_c < r_0$:

$m_2 = \int_{r_0 - d_c}^{r_0 + d_c} \Delta m_{ss}(r) dr = (m_{ss}/(4d_c)) \cdot [(r_0^2 - d_c^2) \cdot \ln r - r^2/2 + 2d_c \cdot r]_{r=r_0 - d_c}^{r=r_0 + d_c}$. (Note 2).

Thus $m = m_{ss} \cdot (r_0/2 + (r_0^2 - d_c^2)/(4d_c) \cdot \ln((r_0 + d_c)/(r_0 - d_c)))$. (Note 3).

- Case where particle m has eccentricity $d_c = r_0$:

$m = m_2 = \int_0^{2r_0} \Delta m_{ss}(r) dr = (m_{ss}/(4r_0)) \cdot [2r_0 \cdot r - r^2/2]_0^{2r_0}$.

Thus $m = m_2 = (r_0/2) \cdot m_{ss}$. (Note 4).

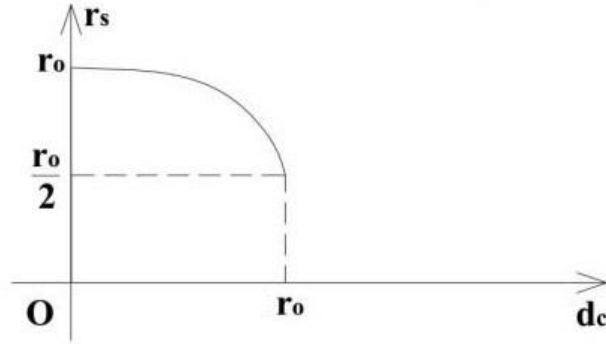
c) Standard radius r_s of particle m:

If $d_c = 0$, then $r_s = r_o$.

If $d_c = r_o$, then $r_s = r_o/2$.

If $0 < d_c < r_o$, then $r_s = r_o/2 + (r_o^2 - d_c^2)/(4d_c) \cdot \ln((r_o + d_c)/(r_o - d_c))$.

General formula: $r_s = \lim_{d_c \rightarrow q} (r_o/2 + (r_o^2 - d_c^2)/(4d_c) \cdot \ln((r_o + d_c)/(r_o - d_c)))$, $0 \leq q \leq r_o$. (Note 5).



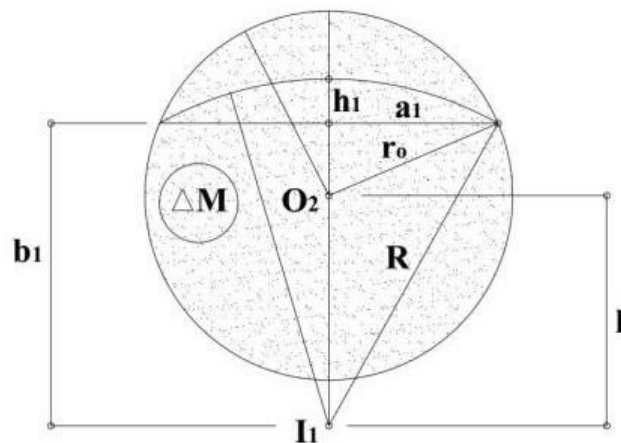
(2.hqb1)

[Figure 2.t1cs (2.hqb1): Curve plot of standard radius r_s versus eccentricity d_c , with vertical axis r_s from $r_o/2$ to r_o , horizontal axis d_c from 0 to r_o . The curve decreases from r_o (when $d_c=0$) to $r_o/2$ (when $d_c=r_o$), illustrating r_s decreases as d_c increases]

Conclusion: $r_o/2 \leq r_s \leq r_o$. r_s decreases as d_c increases.

2) Formula for ΔM of the sphere (O_2 ; r_o) inside particle M with center I_1 where $I_1O_2 \geq r_o$:

Particle M has center I_1 . Assume a hollow sphere (O_2 ; r_o) (containing no vacuum) inside particle M and at distance $\ell = I_1O_2 \geq r_o$ from center I_1 . Particle M has surface mass M_{ss} , standard radius $R_s = M / M_{ss}$.



(3.hqb1)

[Figure 3.t1cs (3.hqb1): Cross-sectional description of particle M space with intensity center I_1 offset outside the small sphere (O_2 ; r_o) with mass ΔM . Distance l from

I_1 to O_2 . The spherical cap (I_1, R) within the small sphere ($O_2; r_0$) with height h_1 , horizontal distance a_1 , vertical distance b_1 from I_1 to the boundary. Illustration of cap from large sphere M into small sphere r_0]

Assumption: Add a vacuum amount ΔM just enough into the sphere ($O_2; r_0$) so that it distributes uniformly according to the vacuum distribution rule of particle M at the considered time.

a) Case $\ell = r_0$:

Using Note 4, replace m_{ss} with M_{ss} to get $\Delta M = (r_0/2) \cdot M_{ss}$.

b) Case $\ell > r_0$:

Spherical cap area of the sphere ($I_1; R$) within the sphere ($O_2; r_0$):

$$\Delta A(R) = 2\pi R \cdot h_1, \text{ with } h_1 = R - b_1. \text{ We have } b_1^2 = R^2 - a_1^2, a_1^2 = r_0^2 - (b_1 - \ell)^2.$$

$$\text{Thus } \Delta A(R) = (\pi/\ell) [(r_0^2 - \ell^2) \cdot R + 2\ell \cdot R^2 - R^3].$$

$$\text{Surface mass of the spherical cap } \Delta M_{ss}(R) = (M_{ss} \cdot \Delta A(R)) / (4\pi R^2) = (M_{ss}/(4\ell)) ((r_0^2 - \ell^2)/R - R + 2\ell).$$

Mass portion of particle M inside the sphere ($O_2; r_0$):

$$\Delta M = \int_{\ell - r_0}^{\ell + r_0} \Delta M_{ss}(R) dR = (M_{ss}/(4\ell)) \cdot [(r_0^2 - \ell^2) \cdot \ln R - R^2/2 + 2\ell \cdot R]_{R=\ell - r_0}^{R=\ell + r_0}.$$

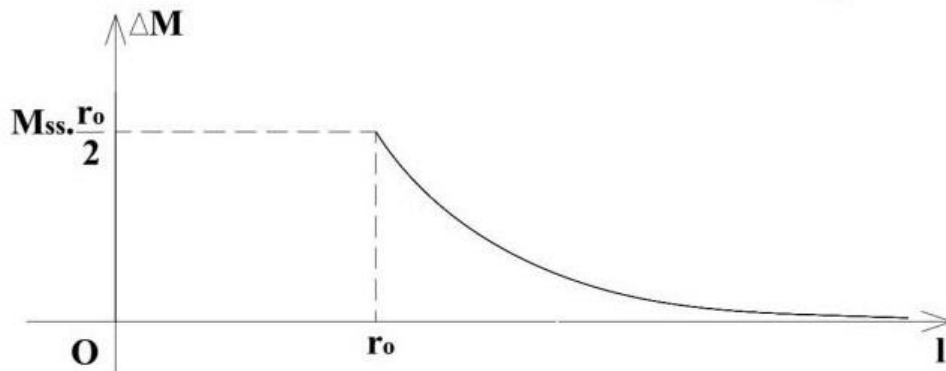
$$\text{Simplified expression } \Delta M = M_{ss} \cdot (r_0/2 + (r_0^2 - \ell^2)/(4\ell) \cdot \ln ((\ell + r_0)/(\ell - r_0))).$$

c) General formula:

$$\Delta M = M_{ss} \cdot \lim_{\ell \rightarrow u} (r_0/2 + (r_0^2 - \ell^2)/(4\ell) \cdot \ln ((\ell + r_0)/(\ell - r_0))), \text{ with } u \geq r_0. \text{ (Note 6).}$$

Special cases:

- If $\ell = r_0$, then $\Delta M = M_{ss} \cdot (r_0/2)$.
- If $r_0 < \ell$, then $\Delta M = M_{ss} \cdot (r_0/2 + (r_0^2 - \ell^2)/(4\ell) \cdot \ln ((\ell + r_0)/(\ell - r_0)))$.



(4.hqb1)

[Figure 4.tlcs (4.hqb1): Curve plot of supplementary vacuum amount ΔM versus distance ℓ , with vertical axis ΔM from 0 to $M_{ss} \cdot r_0/2$, horizontal axis ℓ from r_0 to ∞ . The

curve decreases from $M_{ss} \cdot r_0/2$ (when $\ell=r_0$) to 0 (when $\ell \rightarrow \infty$), illustrating ΔM decreases as ℓ increases]

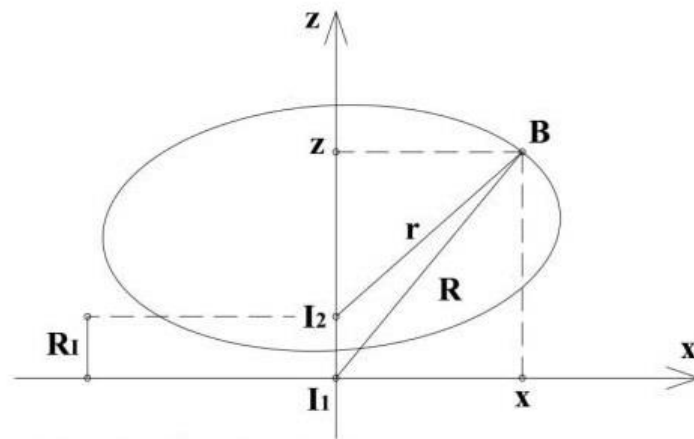
Conclusion: $\Delta M \leq M_{ss} \cdot (r_0/2)$. When distance $\ell \rightarrow \infty$, then $\Delta M \rightarrow 0$.

3) Particles M and m in intensity balance state at all contact points.

Particle M has center I_1 , surface mass M_{ss} , standard radius R_s , geometric coefficient H_1 .

Particle m has center I_2 , surface mass m_{ss} , standard radius r_s , geometric coefficient H_2 .

Particle m is inside particle M. Distance between the two centers: $R_I = I_1 I_2$.



(5.hqb1)

[Figure 5.tlcs (5.hqb1): Cross-sectional description along Z and X axes with coordinate origin at intensity center I_1 of particle M, intensity center I_2 of particle m on Z axis. The contact surface cross-section is assumed to be an arbitrary curve like hyperboloid or paraboloid, marking arbitrary point $B(X, Z)$, with distance R from I_1 to B , r from I_2 to B , and R_I between $I_1 I_2$]

a) Contact surface equation.

The plane ($I_1 X$; $I_1 Z$) is an arbitrary plane in space containing:

- Center I_1 of particle M (coordinate origin),
- Axis $I_1 Z$ passing through center $I_2 = (0, 0, Z_{I2})$.

We have $R_I = |Z_{I2}|$.

Arbitrary contact point $B(X, Z)$ satisfies balance condition: $I(R) = I(r)$.

With $I(R) = (H_1 M)/R^2$, $I(r) = (H_2 m)/r^2$.

Thus $r^2 / R^2 = (H_2 m)/(H_1 M) = m_{ss} / M_{ss}$.

Set ratio coefficient $k = r / R = \sqrt{(m_{ss} / M_{ss})} > 0$, thus $m_{ss} = k^2 \cdot M_{ss}$.
(Note 7).

Two exclusion cases:

- If $k = 1$, equivalent to $R = r$, equivalent to $I_1 \equiv I_2$, equivalent to $M_{ss} = m_{ss}$, thus no spatial boundary between the two particles. This case does not exist, so exclude $k = 1$. (Note 8).

- If $k > 1$, equivalent to $R < r$, equivalent to $M_{ss} < m_{ss}$, thus no intensity center inside the particle space. This case does not exist, so exclude $k > 1$. (Note 9).

Coordinate equation of arbitrary contact point $B(X, Z)$ between the two particles: $X^2 + Z^2 = R^2$ (belonging to particle M), $X^2 + (Z - Z_{I2})^2 = r^2$ (belonging to particle m).

From the two equations of the contact point, thus $k^2 = [X^2 + (Z - Z_{I2})^2] / [X^2 + Z^2]$.

Thus the contact surface equation is: $X^2 + Y^2 + Z^2 - 2 \cdot (Z_{I2} / (1 - k^2)) \cdot Z + Z_{I2}^2 / (1 - k^2) = 0$. (Note 10).

Conclusion: $0 < k = r / R = \sqrt{(m_{ss} / M_{ss})} < 1$. When particle m is in balance state inside particle M , particle m is spherical with center $O_2 = (0, 0, Z_{I2} / (1 - k^2))$, radius $r_0 = (k / (1 - k^2)) \cdot R_I$. (Note 11).

b) Equation relating quantities of the two particles.

According to Note 11: Geometric center coordinate of particle m : $Z_{O2} = Z_{I2} / (1 - k^2)$. Distance between centers of the two particles: $R_I = |Z_{I2}|$. Geometric radius of particle m : $r_0 = (k R_I) / (1 - k^2) = k \cdot |Z_{O2}| \neq |Z_{O2}|$. Eccentricity of particle m : $d_c = |Z_{O2} - Z_{I2}| = (k^2 R_I) / (1 - k^2)$. Distance from center of particle M to geometric center of particle m : $\ell = |Z_{O2}| = R_I / (1 - k^2)$.

From the above relations, thus: $\ell = R_I / (1 - k^2) = r_0 / k = d_c / k^2 = R_I + d_c = r_0 + ((1 - k) / k^2) \cdot d_c = r_0 + R_I / (1 + k)$. (Note 12).

Since $0 < k < 1$, thus $\ell > R_I$, $\ell > r_0 > d_c > 0$.

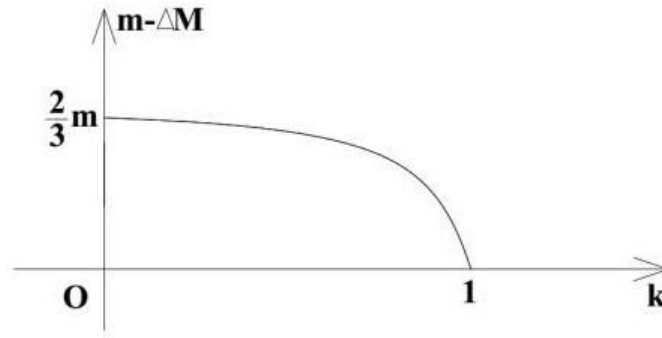
Conclusion: When particle m is inside particle M and intensity at all contact points is balanced: centers of particles M and m do not lie on the contact surface, and eccentricity of particle m is always nonzero. (Note 13).

According to Notes 5, 6, 7, 12, and 13, thus:

$$r_s = (1/2 + (1 - k^2)/(4k) \cdot \ln((1 + k)/(1 - k))) \cdot r_0 \in (r_0/2, r_0). \text{ (Note 14).}$$

$$\Delta M = (1/2 - (1 - k^2)/(4k) \cdot \ln((1 + k)/(1 - k))) \cdot r_0 \cdot M_{ss} = (r_0 - r_s) \cdot M_{ss}.$$

$$m - \Delta M = (1 + k^2 - r_0/r_s) \cdot (m/k^2) \in (0, 2/3 m). \text{ (Note 15).}$$



(6.hqb1)

[Figure 6.11cs (6.hqb1): Curve plot of $m - \Delta M$ versus k , with vertical axis $m - \Delta M$ from 0 to $2m/3$, horizontal axis k from 0 to 1. The curve decreases from $2m/3$ ($k=0$) to 0 ($k \rightarrow 1$), illustrating mass difference decreases as k increases]

Conclusion: mass difference $m - \Delta M$ decreases as k increases.

4. Synthesis of relationship between primary particle and accreted particle.

a) If particle m is spherical (O_2 ; r_0), with center I_2 , and eccentricity $d_c = I_2 O_2 \in (0, r_0)$, then:

- Mass m_1 of the part of particle m inside the sphere (I_2 ; $(1 - k) \cdot r_0$): $m_1 = (1 - k) \cdot r_0 \cdot m_{ss}$ with $k = d_c / r_0$.
- Remaining mass m_2 : $m_2 = (k - 1/2 + (1 - k^2)/(4k) \cdot \ln((1 + k)/(1 - k))) \cdot r_0 \cdot m_{ss}$.
- Standard radius r_s of particle m : $r_s = (1/2 + (1 - k^2)/(4k) \cdot \ln((1 + k)/(1 - k))) \cdot r_0 \in (r_0/2, r_0)$.

b) If particle m is inside particle M and intensity at all contact points is balanced, then:

- Contact surface is a spherical surface with equation:

$X^2 + Y^2 + Z^2 - 2 \cdot (Z_{I_2}/(1 - k^2)) \cdot Z + Z_{I_2}^2/(1 - k^2) = 0$, in OXYZ coordinate system, origin O coinciding with I_1 , Z axis through $I_2 = (0, 0, Z_{I_2})$.

Sphere center: $O_2 = (0, 0, Z_{I_2}/(1 - k^2))$.

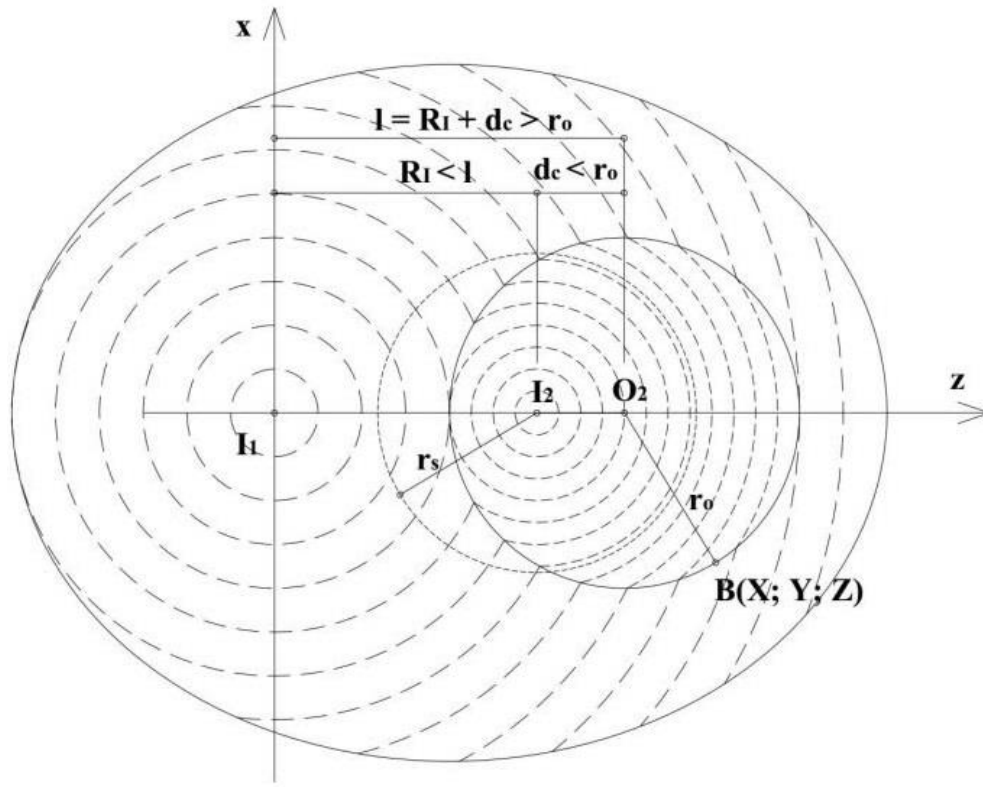
Sphere radius: $r_0 = (k/(1 - k^2)) \cdot R_I$.

Where $R_I = I_1 I_2$, $k = d_c / r_0 = r_0 / \ell = \sqrt{(m_{ss} / M_{ss})} \in (0, 1)$, and ℓ is distance from I_1 to geometric center O_2 of particle m : $\ell = R_I/(1 - k^2) = d_c / k^2 = R_I + d_c = r_0 + ((1 - k)/k^2) \cdot d_c = r_0 + R_I/(1 + k)$.

- Centers I_1 and I_2 do not lie on the contact surface; I_2 always lies on segment $I_1 O_2$; $d_c \neq 0$.

- Average mass density difference over volume V_m occupied by particle m :

$\Delta D = (m - \Delta M) / V_m = (1 + k^2 - r_0 / r_s) \cdot (m / (k^2 \cdot V_m)) \in (0, 2m/(3V_m))$, where $V_m = (4/3) \pi r_0^3$.



(7.hqb1)

[Figure 7.1cs (7.hqb1): Cross-sectional description of particle M with intensity center I_1 as coordinate origin with X and Z axes. Centers I_1, I_2, O_2 on Z axis. Cross-section of particle m as sphere (O_2, r_0) with intensity center I_2 . On sphere (O_2, r_0) marking arbitrary contact point $B(X, Y, Z)$. Cross-section of sphere (I_2, r_s) . Concentric circles from centers I_1, I_2 , representing iso-intensity surfaces. Illustration of small particle m as sphere with eccentricity d_c inside large particle M , with $l = R_I + d_c > r_0, R_I < l, d_c < r_0$]

C) Supplementary Universal Truths Set (sutS).

1. The proton particle p is a fundamental material particle. The electron particle e is a fundamental material particle. (Fundamental material particle abbreviated as fmp).
2. The hydrogen atom H is a system of 2 fmPs consisting of particle p and particle e , where particle e is the accreted particle inside the primary particle p . At the center of the hydrogen atom H , there is no nucleus as particle p , but only the central region of particle p .
3. The neutron particle n is exactly the hydrogen atom H in a state with much higher average mass density compared to the hydrogen atom H when it is in the natural vacuum field on Earth's surface.
4. For the helium atom He , it contains 1 primary particle p , the remaining particle p , particle n , and particle e inside the primary particle p .

5. Any microscopic atom whose main composition is particles p, n, and e, hereafter called microscopic atom {p, n, e}, always has 1 primary particle p, the remaining particles p, particles n, and particles e inside the primary particle p. The size and shape of the atom {p, n, e} is the size and shape of the primary particle p.

6. There never exists a microscopic atom with only particles n and e without particle p, because particle n only exists in regions with much higher average mass density compared to the hydrogen atom H when it is in the natural vacuum field on Earth's surface.

7. Inside particles, there may be fmfs with ultra-small vacuum amounts, even if they are not detected or not mentioned.

8. Inside particles, there may be fmfs with ultra-small, small, large, or ultra-large vacuum amounts.

9. The Moon (excluding the central vacuum region of the Moon particle) and the atmosphere around the Moon are a group of accreted particles inside 1 fmp, this fmp is called the Moon particle. The Moon is in the central region of the Moon particle.

10. The Earth (excluding the central vacuum region of the Earth particle), the atmosphere around the Earth, and the Moon particle are a group of accreted particles inside 1 fmp, this fmp is called the Earth particle. The Earth is in the central region of the Earth particle.

11. The Sun, the atmosphere around the Sun, and the planets orbiting the Sun are a group of accreted particles inside 1 fmp, this fmp is called the Sun particle. The Sun is in the central region of the Sun particle.

12. Venus (excluding the central vacuum region of the Venus particle), the atmosphere around Venus, and Venus's satellites if any, are a group of accreted particles inside 1 fmp, this fmp is called the Venus particle. Venus is in the central region of the Venus particle. Similarly for other planets orbiting the Sun, stars orbiting the Milky Way center, galaxies, etc.

13. The Galaxy/Milky Way (excluding the central vacuum region of the Galaxy/Milky Way particle), the atmosphere around the Galaxy/Milky Way center, stars orbiting the Galaxy/Milky Way center, and planets, satellites of stars if any, are a group of accreted particles inside 1 fmp, this fmp is called the Galaxy/Milky Way particle. The central region of the Galaxy/Milky Way particle may have a group of accreted particles, or few, or many, or none, and the central vacuum region of the Galaxy/Milky Way particle.

14. If there is a natural object with self-regulating properties to maintain rotational motion and also self-regulating properties to maintain orbital motion around a central region, then this object is in the central region of 1 fmp (temporarily understood as fmp named A). This object may be only the central vacuum region of fmp (A), or both the central vacuum region of fmp (A) and a group of accreted particles. Fmp (A) is inside another fmp (temporarily understood as fmp named B), fmp (B) has its center in the central region that fmp (A) orbits around.

15. Each sentient being is a product of the combination of one Spiritual Essence and a group of fmps, with limited knowing due to vacuum influence, essentially mistaking the group of fmps (body-mind) for its own Spiritual Essence. Only when clearly knowing that body-mind is merely vacuum can the rebirth of the combination product end, returning to the complete free Spiritual Essence with its pure knowing faculty.

16. Spiritual quantities of Spiritual Essence or Spiritual Light cannot be directly quantified, but spiritual quantities (such as Q_L) can only be quantified directly with sentient beings. Therefore, spiritual quantities (such as Q_L) have only relative, indirect values as images of Spiritual Essence or Spiritual Light distorted through matter.

17. Some notes:

a) Space is not a property of Spiritual Light but a property of vacuum. Spiritual Essence does not possess separate space/separate vacuum.

b) Each symmetric pair Spiritual Essence - fmp, although symmetric, the Spiritual Essence does not exist in a symmetric state with the corresponding fmp. Each fmp possesses separate space, so its vacuum does not penetrate every position, does not encompass the entire Universe. This means each fmp has limited space, not identical to the Universe, while each Spiritual Essence is identical to the Universe. Therefore, each symmetric pair Spiritual Essence - fmp never meets in a completely corresponding manner in space and their internals, so they do not disappear, the Universe always exists. Because right at arising, due to possessing separate space/separate vacuum, the fmp is immediately space-limited. Meanwhile, Spiritual Essence does not possess separate space, so from the beginning it is identical to the Universe, and always so.

c) Matter must be correctly understood that its internal is vacuum, material particles as well. The internal of Spiritual Essence is not vacuum, but Spiritual Light. Therefore, Spiritual Essence is not matter, not a material particle, it is non-material, belonging to spirit.

d) PMP does not introduce concepts or calculations of density, intensity of Spiritual Light.

Chapter 3: Corollary Knowledge Set.

I) Formulas for time t, propagation velocity c, and grand unified force F.

1) Time Formula (t).

Formula: $t = (s / c) \cdot \exp[- (1 + \alpha \Delta D + \beta I(r) + \eta \Omega + \zeta L) / (\gamma + \delta (k \Delta D))] \cdot (1 / \sqrt{(1 - v^2 / c^2)}) \cdot \sqrt{(1 + 2\Phi / c^2)}$

Calibrated coefficient values (from ACES 2025, still matching +38.7 μ s/day):

$\alpha=1.2e-5$, $\beta=9e-11$ (reduced /100 for atomic scale to avoid $t \approx 0$ before), $\eta=5e-10$, $\zeta=5e-10$, $\gamma=1$, $\delta=1.5e10$, $k=2e-6$.

Detailed explanation:

- t: Time (materialized image), a mapping from time as property of Spiritual Light (ut 53) symmetric through space (ut 10), corollary of variation propagation (ut 42),

dilation according to ΔD and indirect Q_L (suts 16). This formula unifies time dilation in vacuum (ut 19-29), consistent with GPS time dilation effect (+38.7 $\mu\text{s/day}$ at 10^7 m scale) and non-contradictory to ut 41 (no absolute balance).

- s : Space, property of vacuum (ut 35), propagation path length.
- c : Propagation velocity (from formula (2) below), not constant (ut 43).
- ΔD : Mass density difference (t1cs, ut 46), representing intensity difference between particles, affecting time dilation at micro (e.g., hydrogen atom, $t \approx 1.11 \times 10^{-18}$ s at $r=10^{-10}$ m) and macro scales (large dilation at galactic scale, $t \approx 1.23 \times 10^{13}$ s).
- $I(r)$: Intensity at r (ut 16–18), vacuum density at position r , decreasing from particle center according to distribution rule (ut 18).
- Ω : Dynamic deformation (ut 40), representing particle surface shape change, always varying.
- L : Nesting layers (ut 31–33), number of accreted particle layers in primary particle, affecting relative stability.
- Q_L : Image of Spiritual Light (ut 49–55) quantified through sentient beings (suts 16), indirectly calibrated from matter (e.g., $Q_L_temp = k * I(r)$, $k \approx 0.001$ from GPS), here replaced by $(k \Delta D)$ to avoid direct quantification of Spiritual Light.
- v : Motion velocity (ut 27), particle contraction-expansion and motion speed.
- Φ : Gravitational potential from F (formula (3) below) (ut 44), representing vacuum expansion strength.
- $\alpha, \beta, \eta, \zeta, \gamma, \delta$: Calibration coefficients (matching GPS +38.7 $\mu\text{s/day}$), adjusted to fit experiments without violating PMP foundation.

This formula resolves time impasses in modern physics by integrating spirit (indirect Q_L) and matter, serving to reduce delusion mistaking matter for Spiritual Essence (suts 15).

2) Propagation Velocity Formula (c).

Formula: $c = c_0 / (1 + \alpha \Delta D^2 + \beta I(r) + \eta (d\Omega/dr) + \zeta L + \iota (k \Delta D^2))$

Calibrated coefficient values (from LIGO O4 2025, variation $<10^{-15}$):

$\alpha=8\text{e-}6$, $\beta=2\text{e-}13$ (reduced /100 for atomic scale to avoid low c before), $\eta=1\text{e-}12$, $\zeta=1\text{e-}12$, $\iota=2\text{e}11$, $k=5\text{e-}21$.

Detailed explanation:

- c : Variable propagation velocity (ut 42–43), speed of mass intensity variation propagation (ut 37-38), including light, electromagnetic waves, gravitational waves – all one single phenomenon in vacuum (ut 42). Not constant, variation $<10^{-8}$ to 10^{-9} at micro/macro, lower than bound $<10^{-15}$ from LIGO O4.

- c_0 : Reference velocity calibrated (matching LIGO), base value $\approx 2.99792458 \times 10^8$ m/s, adjusted per experiments.
- ΔD^2 : Square of mass density difference (t1cs), slows c in high-density regions (e.g., nucleus, variation $\sim 10^{-7}$ at $r=10^{-15}$ m).
- $I(r)$: Intensity at r (ut 18), directly affecting propagation according to vacuum distribution rule.
- $d\Omega/dr$: Deformation derivative (ut 40), derivative of surface deformation with distance, representing dynamic change.
- L : Layers (ut 31), number of nested particle layers, slows c in complex structures.
- Q_L : Image of Spiritual Light (ut 49–55) quantified through sentient beings (suts 16), indirectly calibrated from matter (e.g., $Q_L_temp = k * \Delta D^2$, $k \approx 1e-16$ from LIGO), here replaced by $(k \Delta D^2)$.
- $\alpha, \beta, \eta, \zeta, \iota$: Calibration coefficients (matching variation $< 10^{-15}$), adjusted so c close to c_0 in free vacuum but varies in high-density regions, consistent with ut 43.

This formula unifies propagation waves (ut 42), explains small variation in LIGO and near-constancy at large scales, supports Universe expansion (ut 39).

3) Grand Unified Force Formula (F).

Formula: $F = -\gamma (\Delta D \cdot m_1 m_2 / r^2) \cdot e^{-\beta r} \cdot (1 + \iota (k \Delta D)) \hat{r}$

Calibrated coefficient values (from JWST 2025, $H_0 \approx 70.4$ km/s/Mpc):

$\gamma = 6.67430e-11$, $\beta = 5.27e-27$, $\iota = 0.015$, $k = 0.0012$.

Detailed explanation:

- F : Single force from expansion (ut 44), unifying gravity, electromagnetism, strong, weak – all from vacuum expansion strength according to distribution rule (ut 18, 44-47). Attraction/repulsion direction based on ΔD difference (ut 46-47).
- γ : Calibration coefficient ($\approx G = 6.67430e-11 \text{ m}^3 \text{ kg}^{-1} \text{ s}^{-2}$), base gravitational constant.
- ΔD : Mass density difference (ut 46), cause of interaction (attraction if $\Delta D > 0$ per ut 31, repulsion if < 0 per ut 32).
- m_1, m_2 : Masses (ut 16), vacuum amounts of the two particles.
- r : Distance (ut 35), between particle centers, interaction only upon contact (ut 45).
- $e^{-\beta r}$: Decay (ut 45), exponential decay weakens force at large distances, contributing to Universe expansion (ut 39, matching $H_0 \approx 70.4$ km/s/Mpc at $r=10^{22}$ m from JWST).

- ${}_1Q_L$: Adjustment for Spiritual Light image (ut 49–55) quantified through sentient beings (suts 16), indirectly calibrated from matter (e.g., $Q_L_temp = k * \Delta D$, $k \approx 0.01$ from JWST), here replaced by ($k \Delta D$).
- \hat{r} : Direction (ut 25–27), vector from one particle to the other.
- β, ι : Calibration coefficients (matching JWST $H0 \approx 70.4$ km/s/Mpc), adjusted decay so force strong at micro (e.g., weak force $\sim 10^{-51}$ N at $r=10^{-15}$ m) and weak at macro (contributing to expansion).

This formula resolves force unification (ut 44), with decay explaining dark energy indirectly, serving peace by understanding interaction nature (Chapter 4 PMP).

II) Other Corollary Knowledge.

1. **Dynamic mathematics from Universe space:** In Universe space (ut 35), all mathematical concepts (point, straight line, curve) are relative, not absolute. A (relative) point can contract into a smaller (relative) point or expand into infinitely many continuous (relative) points (ut 19-29), being a space element with fixed vacuum amount (ut 16, 14).

Note: Can calibrate adjustments from intensity variation propagation (ut 42, ties on ΔD), consistent with observations like LIGO waves with accuracy $<10^{-15}$, without violating dynamics (ut 41). This serves sentient beings to increase correct and thorough knowing (reducing delusion mistaking matter for Spiritual Essence, suts 15), not for those who clearly know body-mind is only vacuum (suts 15).

Chapter 4: Message of Happiness and Peace.

In the endless flow of the Universe, post-modern physics (PMP) is not only a torch illuminating the nature of existence but also a sacred reminder: Knowledge is a gift from the Universe, for sentient beings influenced by vacuum, toward enlightenment, serenity, happiness, and sustainable peace. PMP, with its foundation from 60 universal truths, tier-1 corollary set, and supplementary universal truths, calls upon us – humans and all sentient beings – to use this knowledge to build a world where love spreads, suffering dissolves, and the harmony between matter and spirit becomes reality. We earnestly call upon all humanity to commit: Apply PMP only for common benefit, respect life, protect the environment, reduce delusion (mistaking matter for Spiritual Essence), and promote global peace, absolutely not creating any products that harm, war, or damage humans and sentient beings.

Human cultural convention on PMP: Every individual, organization, or nation commits to the principle "PMP for Happiness and Peace", regarding PMP as shared spiritual heritage, to build a fair society, help reduce suffering and increase happiness. This convention, based on universal truth 48 (all sentient beings have Spiritual Essences), is spread as a global ethical pact through education, scientific conferences, and communities, calling everyone to sign to together aim for correct, thorough knowing, ending all suffering.

Binding violation regulations: Any act using PMP to create harmful products to humans (such as weapons, destructive technology, exploitation causing suffering...) is a

serious violation of PMP copyright, condemned by the community and decided for punishment, research ban, exclusion from PMP forums.

Let us together, with the spirit of reducing suffering, increasing happiness and enlightenment, use PMP to create a serene Universe, where all sentient beings live in the light of pure Spiritual Essence!

Significance and Call.

PMP is not just a theory but a foundation for sustainable scientific development, helping resolve major issues like unification of fundamental forces, nature of time and space, as well as the connection between matter and spirit. The profound significance of PMP lies in bringing hope for a world where science serves humanity, promoting global peace and progress. We call upon scientists, researchers, and the international community to join in verifying, supplementing, and applying PMP, through experiments and open discussions, to together aim for the perfection of human knowledge. Let us build a brighter future!

(The original text was written in Vietnamese. This English text was AI-translated from the original).