

The axiomatic derivation of all stable particle mass values in the Universe from basics

The derivation of all stable mass particle values from basic numbers (shown below) is an intellectual challenge to current Scientific methods. Sankhya, from Vedic science, is a theory based on axiomatic derivation which explains how and why all important mass of particles must be derived from basic numerical ratios. The proof that all such derived values, as ratios, precisely equal recorded values available in Physics. Statistically such a coincidence is virtually impossible. Visit www.kapillavastu.com for full details of the Sankhyan derivations shown in Sankhyaabstract.pdf and others, while a significant group is shown below for your comments etc.

All derived mass values are ratios, compared to a unit value of the same denomination, so it cancels out and forms dimensionless ratios. In Sankhya theory, an axiomatic cycle is shown to consist of 10 primary perpetually resonant oscillating interactive states, in the real substratum of spacial matter. The derivation starts from the resonant ratio 2 and all the important axiomatic rules of a fundamental interactive process in that field of matter is completed within the first cycle of ten interactions, thus unifying all interactive forces. The axiomatic cycle of 10 interaction, forms the "instant or unit count interval" of an interaction and provides the universal clock time for all interactive states in the elementary field space. Resonant volumetric states can exist perpetually as a dynamic entity because the principle of self similarity and scale invariance is inherent as an axiomatic proportionality factor in its operative cycle. Hence an elementary volume of spacial matter can expand to a resonantly larger unit only with a 2 cubed proportionality factor creating 8 volumes, thereby compulsorily submerging or hiding 7 incremental volumes that can never be detected individually. The elemental unit dimension forbids the formation of volumes 2 to 7, as cuberoot of these numbers are fractions which cannot exist in any elemental state in a real field of matter. Hence, in space the unit matter volume always expands to 8, with 7 resonant, hidden, incremental volumes merged into a coherent state. If the resonant symmetry is broken, the coherent state expands as a 7 cubed ratio along all 3 axis to create 343 states, nonresonant but harmonic. The coherent volume of 7, expanding to 343 harmonic states created the quantum concept ultimately leading to Planck's quantum theory. Axiomatically any elementary field of matter under constraint but with 3 degrees of freedom, attains resonance and creates quantum states containing 8 elementary volume units. The field of air in the Earth's atmosphere too operates similarly to produce a spectrum of 7 interactive stresses as sound waves through an interaction. The 7 coherent states provide the potential to create the 49 harmonic states as transmigratory stresses in the real space field. The existence of the hidden states can be analysed only by axiomatic logic of counting interactive events as in Sankhya because all seven act as unified group in a coherent state with a zero time interval between it. Sankhya axiomatically derives this fundamental quantum from resonant ratios to numerically define its value as $1.34E \text{ minus } 51$ relative mass units which nearly equals Planck's constant h / C^2 in terms of relative mass values. The absolute temperature too is proportional to the harmonic state quantum $343/2^{1/3} = 272.24 + 1$ as a detectable value of rate of change in volume. Similarly Sankhya uses 8 Purusha states as the quantum state, similar to the standard model in Physics. The 8 coherent volumetric states of real matter in space are like the gluons. The 3 axial inner bonding sides of 4 volumes form the leptonic equivalent of 12. The 6 external faces, defined by the antiparticle concept of diametrically opposing sides yields 12, which combines as vector forces along 3 axis contributing to the 3 color concept totaling to 36. Hence the 7 and 343 parameters in Sankhya simplifies the chromodynamic derivations as shown below.

Of the 10 interactive states forming a cycle in Sankhya, only 5 such equivalent states are identified by measurement in Physics and those values match precisely. The **fundamental** resonant frequency is also derived from basics as Cs in Sankhya, whereas the measured value of EMW frequency of a meter wavelength light wave as C in Physics is blue shifted and the reason is given below. The unified interactive principle in Sankhya is that Thama compressive collision creates coherent states, Raja as rebounding activity, creates resonance and Satva as expansion creates harmonic states which if phase reversed by field constraint to create a coherent state, it results in a perpetual harmonic oscillatory state of eternal dynamism. Simultaneous interactive exchange in a coherent and centered state acts as a potential (dark matter) and on breaking resonance, harmonics create the stress (energy) transmigration process in two phases of invisible neutrinos and detectable light photons. An axiomatically derived theory is valid forever and cannot be changed. The examples given here only cover a third of the complete theory that resolves all anomalies in Physics. The numerical formulation below shows Thama state in 3 brackets, Raja in 2 brackets and Satva in a single bracket. Thama, centered, coherent state is hidden and its equivalent state in Physics is in "asymptotic freedom". Raja as resonant, is equal to strong, weak & EMW force region. The Satva in the expansive state covers the interactive stress transmigration sequence of the elementary quantum, the Moolaprakriti as the ubiquitous gravitational accelerative force. Since Sankhya counts only completed interactive cycles at the point of the colliding state of Thama, the other two states are equated to it when in balance, else transmigration of stresses is initiated from a higher interactive count to a lower count rate, The

numerical values in each equation exposes the precise logic of resonant and harmonic interactive exchanges and reveals the axiomatic elegance and simplicity inherent in nature. See Sankhyaabstract on web for complete derivational details. Solved numerical values are given here to enable assessment of numerical equivalence at a glance.

$$\left[\left[\left(\frac{1}{2^3} \right) \right] \right] \cdot \left(\frac{10^2 - 2}{10^2} \right) \cdot \left(\frac{1}{2^3 - 1} \right) = 0.91498794$$

Kx is the Purusha coherent fundamental unit of mass, relative to unit of space & a universal constant. Not in Physics

$$\left[\left[\left(\frac{1}{2^3} \right) \right] \cdot \left(\frac{10^2 - 2}{10^2} \right) \cdot \left(\frac{1}{2^3 - 1} \right) \right] \cdot \left(\frac{2^3 - 1}{2} \right) \cdot \left(\frac{10^2}{10^2 - 2} \right) = 2.20369445 \times 10^{-8}$$

Mps (above) is the Mahad Purusha Mass or Planck Mass in Physics . $M_p := 2.17651 \cdot 10^{-8}$ Error due to C/Cs.

$$\left[\left[\left(\frac{1}{2^3} \right) \right] \cdot \left(\frac{10^2 - 2}{10^2} \right) \cdot \left(\frac{1}{2^3 - 1} \right) \right] \cdot \left[\left(\frac{1}{\left(\frac{2}{10^{x^3}} \right)^3} \right) \right] \cdot \left[\left(\frac{1}{\left(\frac{10 \cdot \sqrt{3}}{2 \cdot \pi} \right)^3} \right) \right] = 1.67442318 \times 10^{-27}$$

PM is the Mahad-Prakriti or Coherent mass of nucleus (Hadron) . Core transition state Thama = Raja + Satva. (NIP)

$$\left[\left[\left(\frac{1}{2^3} \right) \right] \cdot \left(\frac{10^2 - 2}{10^2} \right) \cdot \left(\frac{1}{2^3 - 1} \right) \right] \cdot \left[\left(\frac{1}{\left(\frac{2}{10^{x^3}} \right)^3} \right) \cdot \left(\frac{1}{\left(\frac{10 \cdot \sqrt{3}}{2 \cdot \pi} \right)^3} \right) \right] \cdot \left[\frac{\left[(2) + 7 + \frac{1}{7} \right]}{\left[\left(7 + \frac{1}{7} \right) \cdot \left[1 + \left(\frac{1}{2^3 - 1} \right)^2 \right] + (2) \right]} \right] = 1.67262151 \times 10^{-27}$$

Pm (above) is the Prakriti -Vikriti expanding mass. Proton mass in Physics as $P_{mp} := 1.6726231 \cdot 10^{-27}$ Error 0.57 millionth.

$$\left[\left[\left(\frac{1}{2^3} \right) \right] \cdot \left(\frac{10^2 - 2}{10^2} \right) \cdot \left(\frac{1}{2^3 - 1} \right) \right] \cdot \left[\left(\frac{1}{\left(\frac{2}{10^{x^3}} \right)^3} \right) \cdot \left(\frac{1}{\left(\frac{10 \cdot \sqrt{3}}{2 \cdot \pi} \right)^3} \right) \right] \cdot \left[\frac{\left[(2) + 7 + \frac{1}{7} \right] \cdot \left[1 + \left(\frac{1}{2^3 - 1} \right)^2 \right]}{\left[\left(7 + \frac{1}{7} \right) \cdot \left[1 + \left(\frac{1}{2^3 - 1} \right)^2 \right] + (2) \right]} \right] = 1.67492765 \times 10^{-27}$$

Pn is the Mahad--

Prakriti compressive mass. Neutron mass in Physics as $P_{np} := 1.6749286 \cdot 10^{-27}$ error 0.95 millionth

$$\left[\left[\left(\frac{1}{2^3} \right) \right] \cdot \left(\frac{10^2 - 2}{10^2} \right) \cdot \left(\frac{1}{2^3 - 1} \right) \right] \cdot \left[\left(\frac{1}{\left(\frac{2}{10^{x^3}} \right)^6} \right) \right] \cdot \left[\frac{\left(1 - \frac{2}{\sqrt{3}} \right) \cdot \left[\left(\frac{2}{10^{x^3}} \right)^{1-x} \right]^7}{1 \cdot 7} \right] = 9.11023372 \times 10^{-31}$$

Me is the Prakriti-Vikriti coherent state mass and is a lepton state that is a harmonic counter part of the coherent PM state. NIP

$$\left[\left[\left(\frac{1}{2^3} \right) \cdot \left(\frac{10^2 - 2}{10^2} \right) \cdot \left(\frac{1}{10^x} \right) \right] \right] \cdot \left[\frac{1}{\left(\frac{2}{10^{x^3}} \right)^3 \cdot \left(\frac{10}{2 \cdot \pi \cdot \sqrt{3}} \right)^3} \right] \cdot \left(\frac{1}{2^3 - 1} \cdot \frac{2 \cdot \pi}{10} \right)^2 = 9.11405802 \times 10^{-31} \blacksquare$$

Mep is the Mahad-Prakriti-Vikriti compressive state mass, a lepton & harmonic counterpart of the Pn state. NIP

$$Me - \left[\left[\left(\frac{2}{7} \right) \right] \cdot \left(\frac{10^2 - 2}{10^2} \right) \right] = 9.10938382 \times 10^{-31} \blacksquare$$

Mee is the Vikriti- Vriti

expansive state Lepton as Electron $Mez := 9.1093897 \cdot 10^{-31}$. Measurement error 0.65 millionth

$$\left[\left[\left(\frac{1}{2^3} \right) \cdot \left(\frac{10^2 - 2}{10^2} \right) \cdot \left(\frac{1}{10^x} \right) \right] \right] \cdot \left[\frac{1}{\left(\frac{2}{10^{x^3}} \right)^6} \right] \cdot \left[\frac{\left(\frac{2}{7} \right)^2}{(2 \cdot \pi) \cdot 10^{x^3}} \right] = 9.52873405 \times 10^{-35} \blacksquare$$

Ne is the Vriti- Moolaprakriti expansive transmigrating mass and is identified as a Neutrino in Physics. Its mass unknown.

$$\left[\left[\left(\frac{1}{2^3} \right) \cdot \left(\frac{10^2 - 2}{10^2} \right) \cdot \left(\frac{1}{10^x} \right) \right] \right] \cdot \left[\frac{2^3 - 1}{\left(\frac{2}{10^{x^3}} \right)^6} \right] \cdot \left[\frac{\left(\frac{2}{7} \right)^2}{(2 \cdot \pi) \cdot 10^{x^3}} \right] = 6.67011384 \times 10^{-34}$$

7Ne or Vriti-Vikharo as

transmigrating quanta or Photon in Physics. $h := 6.6260755 \cdot 10^{-34}$. Error due to C/Cs and coupling constant

$$\left[\left[\left(\frac{1}{2^3} \right) \cdot \left(\frac{10^2 - 2}{10^2} \right) \cdot \left(\frac{1}{10^x} \right) \right] \right] \cdot \left[\frac{1}{\left(\frac{2}{10^{x^3}} \right)^6} \right] = 1.34462022 \times 10^{-51} \blacksquare$$

Mly is the Moolaprakriti, the elemental quantum unit mass in a coherent state. Mly and h ratio shown below:

$$\frac{2^3 - 1}{2^3} \cdot mly = 7.47058046 \times 10^{-51} \quad \frac{h}{c^2} = 7.37250328 \times 10^{-51}$$

$$Cs := 10^{\frac{2}{x^3}} = 2.96575967 \times 10^8$$

is Cs is the perpetual harmonic oscillatory interactive rate of matter in space and is a universal constant. Observer can set scale / gauge ratio by equating Cs to length / displacement rate. C its counter part in Physics is shown below as EMW velocity C.

$10^{\frac{2}{3} + \frac{R_s}{R_o}} = 2.99792458 \times 10^8$ is C as velocity of light from experimental result of (Michelson Morley etc). The frequency of a meter wavelength of a light is also C but is blue shifted from Cs by $\log 1/213.4586$ as the ratio of the Solar radius to the Earth's orbital radius. Values of frequency of a meter wavelength light wave on each Planet will be **blue shifted** by the above ratio. C/Cs = 1.010845. NIP. The reason is that all elementary quanta must have mass with the 7 hidden states and will radate from higher to lower frequency C. Steller Redshifts are blueshifts if compared to Cs and not C.

$\frac{\sqrt{1+2^2}-1}{2} = 0.61803399$ is x the axiomatic self similar ratio that is scale invariant and proportionate in linear, area, volumetric, circular, logarithmic calculations and unifies resonant, harmonic, coherent states. The cycle of 10 counts is shown below.

$$i := 0..600 \quad A_0 := \frac{x}{2} \quad A_{i+1} := \frac{\sqrt{\left[1 - \sqrt{1 - (A_i)^2}\right]^2 + (A_i)^2}}{2}$$

$$n := 500 \quad \pi = 2^n \cdot 10 \cdot A_n \quad 2^n \cdot 10 \cdot A_n = 3.141593 \quad \pi = 3.141593$$

$$\text{SANKHYA AXIOMATIC RESONANT CYCLE} = 10 \text{ counts} \quad \frac{\pi}{(2^n \cdot A_n)} = 10$$

The Purusha state of 8 is a close parallel to the standard model in physics The Sankhyan 8 substantial cubes form the gluon, as they connect all eight together. (being real but elemental matter). The six sides of each of that cube form the 6 quarks, but the inner joined surface, though hidden, affect interactions as the surfaces remain together ONLY due to resonance and form the anti particle concept and so 12 emerges.. The vector / angular measurement values of a rigid holographic form have created the three colour concepts thus leading to 36. The three axial surfaces forming the joint of each set of 4 cubes in the eight, gives 12 leptons. The W, Z, Photon and Higgs represent the stresses in the three Guna interaction in the following manner: Higgs the Thama or coherent state, W the Raja or the resonant state, Z the Satva state of transmigratory sequence and Photon as the Vikharo radiative state. The Cern experiment has detected what happens when two 8 states are collided. it will break up instantly to yield $2^7 = 128$ times the original value of the colliding particles. We must remember that $2^3 = 8$ is formed by adding 7 cubes to the first and that is released instantly.

The website has the book part one and all relevant information needed to understand Sankhya as an unique axiomatic theory that cannot be changed. Part 2 of the book deals with Cosmology too similarly, by deriving all stable states from ratio 2. The Universe oscillates cyclically over a period of 95 billion years. The radius of the Universe is the distance a photon loses potential to be absorbed in C. The critical matter density in space is 3.6Eminus 25 kgs/cum satisfying GR and SR. A perpetual oscillatory device is in demo mode from Sankhyan predictions.

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