m-s System of Units

--- Completion of the Logical Foundation of Physics

Author: Zhiqiang Zhang

【Abstract】The meter-second system of units, or m-s system of units, or MS System for short, is a new physical units system put forward by Theory of Completable Space-Time (abbreviated UPHY). This theory was initiated by the author in 2005 and has developed ever since. The UPHY has discovered a kind of physical property universally possessed by all physical quantities — the multi-dimensional space-time structure, and on this basis, the m-s system of units is established. The MS System realizes theoretical definitions to all physical units including those basic quantities and derived quantities in SI based on meter and second. The main contents of the MS System include but are not limited to the definition of constant physical quantity, the reciprocal modulus theorem, the rule of space-time configuration, the rule of space-time value , the theorem of completable physical constants, the physical units equivalence theorem, the default theorem, the MS system's physical units definition system, the periodic table of physical elements. By all of these results, the MS System realizes logical deepening and expansion of SI, that is, completion of the logical foundation of physics. The experimental basis of the MS System is same as that of SI.

【Keywards】Meter-Second System of Units, m-s System of Units, MS System, Multi-dimensional Space-Time Structure (MSTS), Rule of Space-Time Configuration, Rule of Space-Time Value, Physical Units Definitoin System of MS System, Periodic Table of Physical Elements

==

Author's profile: Zhang Zhiqiang, male, born on January 7th,1958, in Jiangsu, China, currently resides in Dalian, China.. Retired electronic engineer, graduated from Liaoning Radio and Television University. Research field: Theoretical physics and Cosmology. Main achievements: Theory of Completable Space-Time, Ultra-micro Physics (UPHY), Meter-Second System of Units (MS System), CST Model on the Universe.
Contact：Gbubble@vip.163.com

Table of Contents

Preface

1， Definition of Constant Physical Quantity

1.1 Expression of the Definition

1.2 Reciprocal Modulus Theorem

2，Four Fundamental Values

3，Rule of Space-Time Configuration

3.1 Expression of the Rule

3.2 Inference

3.3 Interpretation to the Rule

3.4 Experimental basis of the Rule

3.5 Dimensitoinal Space and Time

3.6 Examples of STCs

3.7 Acquisition of STC

4，Rule of Space-Time Value

4.1 Expression of the Rule

4.2 Inference

4.3 Interpretation to the Rule

4.4 Examples of STV

5，Theorem of Completable Physcial Constant

5.1 Expression of the Theorem

5.2 Space-Time Nature of Completable Physical Constant

5.3 An Exercise

5.4 Constant Physical Quantities

5.5 Theoretical Predictioin

6，Physical Units Equivalence Theorem

6.1 Expression of the Theorem

6.2 Properties of the Theorem

6.3 Calculation Examples

6.4 Inference

7，Default Theorem

7.1 Expression of the Theorem

7.2 Interpretation to the Theorem

7.3 Verification to the Theorem

8 ， Multi-dimensional Space-Time Structure (MSTS)

8.1 IExpression of MSTS

8.2 Examples of MSTS

8.3 Dual Physical Nature of MSTSs

8.4 Equivalent Mass

9，Physical Units Definition System

9.1 Semi-theoretical MS System

9.2 Fully-theoretical MS System

9.3 Experimental Basis of MS System

10, Periodic Table of Physical Elements

10.1 Brief to the Table

10.2 Contents of the Table

10.3 Adjacent Relationship of Elements

Postscript

Reference

Preface

Physics is mother of natural sciences. The entire theoretical system of physics likes a magnificent building that human beings are constructing. The height this building can reach largely depends on whether its foundation is deep and solid enough. The vast theoretical system of physics is also a rigorous logical system, which is divided into two parts: upper-level theories and logical foundations. The upper-level theories refer to those theories of various branches of physics, such as Newtonian mechanics, thermodynamics and statistical physics, electromagnetism, optics, particle physics, condensed matter physics, relativity, quantum mechanics, etc. These upper-level theories have logical feature of downward compatibility. The logical foundation of physics is definition system of physical units, which is a definition system for basic concepts of physics and also common logical foundation for all upper-level theories of physics. There are various of definition system of physical units, such as the centimeter-gram-second system (CGS system), the meter-kilogram-second system (MKS system), natural unit systems (such as Planck units system), the international system of units (SI). The SI is currently the physical units system widely adopted by global scientific community as well as the unified system of weights and measurements used worldwide. Contrary to the upper-level theories of physics, the physical system of units has logical feature of upward compatibility.

Fundamental logical relationship between logical foundation and upper-level theories of physics is: that the deeper the logical foundation of physics is, the greater the developmental potential of the upper-level theories would be. In other words, the more closer the fundamental physical concepts defined by physical system of units would align with corresponding physical realities, the deeper and broader the understanding about the universe offered by the upper-level theories built upon them would be.

Physicists have been continuously improving definition system of basic physical concepts. For example, in 2019, significant improvements were made to definitions of the seven basic quantities in SI. Based on the Planck constant, elementary charge, and Boltzmann constant, more precise measurement-based definitions were given for three basic quantities: the unit of mass, the unit of electric current intensity, and the unit of thermodynamic temperature.[4] The unit of length can be defined based on the speed of light constant; the amount of substance can be defined according to the Avogadro constant;

and the remaining units of time and luminous intensity retain their original definitions. All derived quantities in SI can be strictly defined based on these seven basic quantities as per relationships between physical quantities summarized from physical theories and experiments and expressed by relationships of SI physical unit symbols.

However, all existing physical systems of units share a common flaw: they lack understanding about common physical properties of all physical quantities. Any type of thing can be subjected to various abstract understandings, such as philosophical abstraction, mathematical abstraction, physical abstraction, chemical abstraction, biological abstraction, literary abstraction, artistic abstraction, etc., among which philosophical abstraction is the highest level of abstraction. Philosophy tells us that understanding of all types of existence (things) follows basic principles of the general and the specific, as well as commonality and individuality. The objective basis of this philosophical principle of cognition is that all existence (things) possess both individual attributes and common attributes. For example, all living organisms have their own biological characteristics. The biological characteristics of plants differ from those of animals, the biological characteristics of animals differ from those of humans, and the biological characteristics of humans differ from those of bacteria; each species has its unique individual biological attributes. The common biological attribute shared by all species is the DNA fragments that carry genetic information—genes. Another example is that more than one hundred substances listed in the periodic table of chemical elements have vastly different individual physical and chemical properties. Yet, the common physical attribute of all these chemical elements is that they are composed of atoms—all of them are made up of different atoms. Similarly physics has discovered about more then 60 physical quantities (according to incomplete statistics) which are physical realities, such as mass, energy, momentum, angular moment, acceleration, electric current intensity, electric field strength, magnetic field strength, electric charge, magnetic flux, thermodynamic temperature, etc. Physics has already gained good or relatively good understanding about their physical characteristics (individual physical attributes of physical quantities).

The question now is What is the common physical property of all physical quantities?

Commonality is equivalent to law. Understanding the common physical properties of all physical quantities is not only a philosophical issue but also a valid question in physics.

It represents a new understanding of objective laws and constitutes completion of the logical foundation of physics.The Theory of Completable Space-Time (UPHY) is a physical theory established by the author, which is consisting of the meter-second system of units (MS system) and the CST model. The former is UPHY's effort to complete the logical foundation of physics, while the latter is a theory concerning origin and evolution of the universe. The UPHY has theorectically discovered common physical property of all physical quantities---the multi-dimensional space-time structure. On this basis, UPHY has established the meter-second system of units that realizes unified theoretical definition to both basic quantities and derived quantities of all physical units only based on two basic quantities ---meter and second.

1, Definition of Constant Physical Quantity

The definition of constant physical quantitiy holds logical status of an axiom in UPHY and serves as logical origin of UPHY. The truth of this definition cannot be proven by itself; instead, it is confirmed by correctness of all its inferences.

1.1 Expression of the Definiton

$$\left\{\begin{array}{c} For\ any\ physical\ quantity\ designated\ by\ physical\ unit\ DimA, \\ there\ always\ exists\ an\ cooresonding\ constant\ physical\ quantity \\ A_G\ \ whose\ space\ time\ value\ is\ constantly\ equal\ to\ 1. \\ that\ is, STV(A_G) = STV(|A_G|DimA) \equiv 1 \\ and\ STV(G) = STV(h) = STV(c) = STV(k_B\} = STV(N_A) \equiv 1 \\ where, STV(A_G)\ said\ space\ time\ value\ of\ A_G\ , \\ |A_G|\ said\ modulus\ of\ A_G. \\ G - gravitaitonal\ constant, h - Planck\ constant, \\ c - speed\ of\ light\ constant\ , \\ k_B - Boltzmann\ constant, N_A - Avogadro\ cnstant. \end{array}\right\}$$

$$\text{Eq.} 1-1$$

Note: For any physical quantity $A = |A|DimA$, to call $|A|$ as modulus of A. STV is abbreviation of Space-Time Value, which mathematically means numerical value of physical units and physical quantities.

1.2 Reciprocal Modulus Theorem

Space-time value of any physical unit is equal to reciprocal of modulus of its corresponding constant physical quantity. that is,

$$STV(DimA) = \frac{1}{|A_G|} \qquad \text{Eq.1-2}$$

2, Four Fundamental Values

To determine space-time values of unit length and unit time, reference can be made to the Planck length and Planck time. In the Planck system of units, the Planck length and Planck time are expressed respectively as $\sqrt{\frac{G\hbar}{c^3}}$ and $\sqrt{\frac{G\hbar}{c^5}}$, where $\hbar=\frac{h}{2\pi}$ denotes the reduced Planck constant and h is Planck constant. The reduced Planck constant is less natural than Planck constant itself. By replacing the reduced Planck constant with Planck constant in these two Planck physical quantities and in accordance with the definition of constant physical quantities, we have:

$$STV\left(\sqrt{\frac{Gh}{c^3}}\right) = STV[\sqrt{\frac{(6.67259\times10^{-11})(6.6260755\times10^{-34})}{(2.99792458\times10^{8})^3}}m] = STV(0.40508331 \times 10^{-34}m) = 1$$。

Thus we get $STV(m) = \frac{1}{0.40508331\times10^{-34}} = 2.46862796 \times 10^{34}$。

$$STV\left(\sqrt{\frac{Gh}{c^5}}\right) = STV[\sqrt{\frac{(6.67259\times10^{-11})(6.6260755\times10^{-34})}{(2.99792458\times10^{8})^5}}s] = STV(1.35121249 \times 10^{-4}\ s) = 1$$

Thus we get $STV(s) = \frac{1}{1.35121249\times10^{-43}} = 0.74007604 \times 10^{43}$。

Given these two space-time values are obtained based on observed data of those three elementary constants, so to call them respectively as observed values of length unit and time unit, expressed as

$$STV(m) = 2.471699 \times 10^{34} \quad \text{(observed value)}$$

$$STV(s) = 0.740076 \times 10^{43} \quad \text{(observed value)}$$

Due to certain degree of uncertainty in the observed values of unit length and unit time, the theory needs to eliminate such uncertainty. The reasons are as follows: firstly, since inevitable intervention of observation and interference it brings, the measured values to physical quantities will always deviate from inherent value of the physical quantitie to be measureds. Secondly, for microscopic physical quantities, measurement interference is more significant, and uncertainty range of measurement results is larger than that of macroscopic physical quantities. Thirdly, the National Institute of Standard and Technology (NIST) regularly updates observed data of various elementary physical constants, which causes slight changes in calculation results of the space-time values of length units and time units, leading to fluctuations in basic data. To balance accuracy, certainty, and stability, and following the simplicity principle generally possessed by fundamental physical principles, and with reference to the observed values of length units and time units, the MS System theoretically sets STV of four physical quantities, all of them take cycle numbers, namely the STV of unit two-dimensional space, STV of unit two-dimensional time, STV of unit nothingness, and $\frac{1}{137}$., which are expressed as

$$\left\{\begin{array}{ll} STV(m^2) = 6.\dot{1} \times 10^{68} & \text{(Theoretical value)} \\ STV(s^2) = 0.55\dot{0} \times 10^{86} & \text{(Theoretical value)} \\ STV(|G|m^3) = 1.008\dot{3} \times 10^{93} & \text{(Theoretical value)} \\ STV(a) = \dfrac{1}{137} = 0.\dot{0}\dot{0}\dot{7}\dot{2}\dot{9}\dot{9}\dot{2}\dot{7} & \text{(Theoretical value)} \end{array}\right\}$$

$$\text{Eq.} 2-1$$

To call these four values as fundamental values. Based on them and by calculation, we can get following three basic values,

$$\left\{\begin{array}{l} STV(m) = 2.4720661623652209 \times 10^{34} \text{(Theoretical value)} \\ STV(s) = 0.7416198487095662 \times 10^{43} \text{ (Theoretical value)} \\ |G| = 6.6745786383860968 \times 10^{-11} \quad \text{(Theoretical value)} \end{array}\right\}$$

$$\text{Eq.} 2-2$$

In the MS System, all these theoretical values are adopted.

3，Rule of Space-Time Configuration

3.1 Expression of the Rule

$$\left\{\begin{array}{c} For\ any\ physical\ quantity\ designated\ by\ physical\ unit\ DimA\ possesses \\ nature\ of\ multidimensional\ space\ time\ structure, whose\ space\ time \\ components\ composition\ are\ expressed\ as \\ STC(DimA) = Bm^a s^{-b} \\ \text{where, } STC(DimA) - \text{space time configuration of DimA,} \\ m - \text{unit of one dimensional space (length unit),} \\ s\ - \text{unit of one dimensional time (time unit),} \\ a, b \text{ are integers and } a, b = 0, \pm1, \pm2, \pm3, \pm4, \pm5, \\ B \text{ is cofficient and } B \geq |G| = 6.6745786383860966 \times 10^{-11}. \\ \text{To call this law as rule of space time configuration of physical units}, \\ \text{or rule of space time configuratioin}. \end{array}\right\}$$

$$\text{Eq.} 3-1$$

Based on the definition of constant physical quantity, some of elementary physical constants, and SI physical unit symbols relationship[1], as well as by solutions of space-time configurations of various known physical units, the rule of space-time configuration can be summarized.

Note : STC is abbreviation of Space Time Configuration.

3.2 Inference

For any physical quantity $A = |A|DimA$, its STV can be expressed as

$$STC(A) = |A|Bm^a s^{-b} \qquad Eq.3-2$$

3.3 Interprestation to the Rule

All real physical quantities have attribute of multi-dimensional space-time structure, and their space-time component composition follows the rule of space-time configuration . that is, the multi-dimensional space-time structure is composed of specific number of dimensional spaces m^a or dimensional times s^b, or specific number of dimensional spaces and dimensional times $m^a s^{-b}$.

3.4 Experimental Basis of the Rule

Those elementary physical constants and relationships of physical units symbols exhibited in SI have been confirmed by physical theories and large number of physical experiment results, which constitutes experimental basis of physics, while the rule of space-time configuration is obtained based on SI and the definition of constant physical quantity, therefore, the rule of space-time configuration has the same experimental basis.

3.5 Dimensional Spaces and Dimensional Times

Dimensioanl spaces and dimensional times are components of multi-dimensional space-time structure, which are defined as .

$$\begin{Bmatrix} To\ define\ m^a\ as\ dimensional\ spaces. \\ where, m - unit\ of\ one\ dimensional\ space\ (length\ unit, \\ a - number\ of\ dimensions, and\ a = 0,1,2,3,4,5. \\ To\ define\ s^b\ as\ dimensional\ times. \\ where, s - unit\ of\ one\ dimensional\ time (time\ unit), \\ b - number\ of\ dimensions, and\ b = 0,1,2,3,4,5. \end{Bmatrix}$$

$$Eq.3-3$$

3.6 Examples of STC

Mass $STC(kg) = |G|m^3 s^{-2}$

Energy $STC(J) = |G|m^5s^{-4}$

Force $STC(N) = |G|m^4s^{-4}$

Power $STC(W) = |G|m^5s^{-5}$

Momentum $STC(kgms^{-1}) = |G|m^4s^{-3}$

Angular moment $STC(kgm^2s^{-1}) = |G|m^5s^{-3}$

Mass density $STC(kgm^{-3}) = |G|m^0s^{-2}$

Thermodynamic temperature $STC(K) = \frac{a^{-1}}{|N_A|\times10^{-23}}m^4s^{-4}$

Electric current intensity $STC(A) = \sqrt{|G|}m^3s^{-3}$

Electric charge $STC(C) = \sqrt{|G|}m^3s^{-2}$

Votage $STC(V) = \sqrt{|G|}m^2s^{-2}$

Magnetic flux $STC(W_b) = \sqrt{|G|}m^2s^{-1}$

Magnetic induction intensity $STC(T) = \sqrt{|G|}m^0s^{-1}$

Current density $STC(Am^{-2}) = \sqrt{|G|}m^1s^{-3}$

Electric field strength $STC(Vm^{-1}) = \sqrt{|G|}m^1s^{-2}$

Magnetic field strength $STC(Am^{-1}) = \sqrt{|G|}m^2s^{-3}$

Magnetic moment $STC(JT^{-1}) = \sqrt{|G|}m^5s^{-3}$

Radiant flux density $STC(E) == |G|m^3s^{-5}$

3.7 Acquisition of STC

Based on the definition of constant physical quantities, the relational expressions of SI physical unit symbols, and the STV of length unit and time unit, the STC of physical units including but not limited to the followings can be obtained. The specific method is firstly to obtain space-time configurations of basic quantities, and then get space-time configurations of derived quantities according to the relational expressions of SI physical unit symbols.

3.7.1 Acquisition of STC of Basic and Derived Quantities in Mechanics

By the definition of constant physical quantity, there would be $STV(G) = STV(|G|m^3kg^{-1}s^{-2}) = 1$, then we get $STV(kg) = STV(|G|m^3s^{-2})$., removing the symbole of STV at both sides, it turns into $kg = |G|m^3s^{-2}$. To call such expressional form of kilogram as space-time configuration of one kilogram, signed $STC(kg)$, so we get

$STC(kg) = |G|m^3s^{-2}$. Based on it and SI physical unit relationships, we can get STCs of derived quantities in Machanics. For instance,

•By SI unit symbol relation $J = kgm^2s^{-2}$, we get STC of energy unit

$STC(J) = STC(kgm^2s^{-2}) = |G|m^5s^{-4}$.

•By $N = kgms^{-2}$, we get STC of force unit

$STC(N) = STC(kgms^{-2}) = |G|m^4s^{-4}$.

• By $W = Js^{-1}$, we get STC of power unit

$STC(W) = STC(Js^{-1}) = |G|m^5s^{-5}$.

• By $p = kgms^{-1}$, we get STC of momentum unit

$STC(p) = STC(kgms^{-1}) = |G|m^4s^{-3}$.

•By $L = kgm^2s^{-1}$, we get STC of angular moment unit

$STC(L) = STC(kgm^2s^{-1}) = |G|m^5s^{-3}$.

•By $\rho = kgm^{-3}$, we get STC of mass density unit

$STC(\rho) = STC(kgm^{-3}) = |G|m^0s^{-2}$.

•By Nm^{-1}, we get STC of surface tension unit

$STC(Nm^{-1}) = |G|m^3s^{-4}$;

•By $P_a = Nm^{-2}$, we get STC of pressure unit

$STC(P_a) = STC(Nm^{-2}) = |G|m^2s^{-4}$.

•By P_as, we get STC of dynamic viscosity unit

$STC(P_as) = |G|m^2s^{-3}$;

3.7.2 Acquisition of STC of Basic and Derived Quantities in Electromagnetics

By SI physical unit relation $\frac{N}{A^2} = m^{-2}s^2$, there would be $A = \sqrt{Nm^2s^{-2}}$ and $STC(A) = \sqrt{|G|m^4s^{-4}m^2s^{-2}} = \sqrt{|G|}m^3s^{-3}$., then we get STC of electric current intensity unit $STC(A) = \sqrt{|G|}m^3s^{-3}$. Then we can get STC of derived quantityies in electromagnetics. For instance,

•By $C = As$, we get STC of electric charge unit

$STC(C) = STC(As,) = \sqrt{|G|}m^3s^{-2}$.

•By $V = \frac{W}{A}$, we get STC of Voltage unit

$STC(V) = \frac{|G|m^5s^{-5}}{\sqrt{|G|}m^3s^{-3}} = \sqrt{|G|}m^2s^{-2}$.

•By $W_b = Vs$, we get STC of magnetic flux unit

$STC(W_b) = STC(Vs) = \sqrt{|G|}m^2s^{-1}$.

•By $T = \frac{N}{Am} = W_bm^{-2}$, we get STC of magnetic induction intensity unit

$STC(T) = STC(W_bm^{-2}) = \sqrt{|G|}m^0s^{-1}$.

•By Cm^{-3}, we ge STC of charge density unit

$STC(Cm^{-3}) = \sqrt{|G|}m^0s^{-2}$.

•By Am^{-2}, we get STC of electric current density unit

$STC(Am^{-2}) = \sqrt{|G|}m^1s^{-3}$.

•By Vm^{-1}, we get STC of electric field strength unit

$STC(Vm^{-1}) = \sqrt{|G|}m^1s^{-2}$.

•By Am^{-1}, we get STC of magnetic field strength unit

$STC(Am^{-1}) = \sqrt{|G|}m^2s^{-3}$.

•By JT^{-1}, we get SIC of magnetic moment unit

$STC(JT^{-1}) = \frac{|G|m^5s^{-4}}{\sqrt{|G|}m^0s^{-1}} = \sqrt{|G|}m^5s^{-3}$.

•By $\Omega = VA^{-1}$, we get STC of resistance unit

$STC(\Omega) = \frac{\sqrt{|G|}m^2s^{-2}}{\sqrt{|G|}m^3s^{-3}} = m^{-1}s^1$.

•By $S = \Omega^{-1}$, we get STC of conductance unit

$STC(S) = m^1s^{-1}$.

•By $H = VsA^{-1}$, we get STC of inductance unt

$STC(H) = \frac{\sqrt{|G|}m^2s^{-2}s}{\sqrt{|G|}m^3s^{-3}} = m^{-1}s^2$.

•By $F = CV^{-1}$, we get STC of capacitance unit

$STC(F) = \frac{\sqrt{|G|}m^3s^{-2}}{\sqrt{|G|}m^2s^{-2}} = m^1s^0$.

•By $\sigma = Sm^{-1}$, we get STC of conductivity unit

$STC(\sigma) = m^1s^{-1}m^{-1} = m^0s^{-1}$.

3.7.3 Acquisition of STC of Basic and Derived Qquantities in Thermodynamics and

Statistical Machanics

At first, to determine STC of mole. By definition of constant physical quantity, there would be $STV(N_A) = STV(|N_A|mol^{-1}) = 1$, and $STV(mol) = STV(|N_A|) = 6.0221367 \times 10^{23}$. To find out STC of $m^a s^{-b}$ whose STV is closer to 6.0221367×10^{23}, residual value to be served as coefficient of molar STC. Since $STV(m^2s^{-1}) = \frac{(2.4720661623652209\times10^{34})^2}{0.7416198487095662\times10^{43}} = 8.2402205412174043 \times 10^{25}$,

While $\frac{6.0221367\times10^{23}}{8.2402205412174043\times10^{25}} = 0.73082227 \times 10^{-2}$ $=0.0073082227$. Thus we get $STV(mol) = \ (0.0073082227)STV(m^2s^{-1})$.

Considering invevitable interference from measurement, the observed data of Avogandro constant must deviate its ingerent value, and taking one of fundamental values $STV(a) = \frac{1}{137} = 0.\dot{0}\dot{0}\dot{7}\dot{2}\dot{9}\dot{9}\dot{2}\dot{7}$ into account, we can further confirm $STV(mol) = STV(a)STV(m^2s^{-1})$. Removing STV symbole from both sides, we get $mol = am^2s^{-1}$. So we get STC of mole

$$STC(mol) = am^2s^{-1}$$

Secondly to find out theorectical value of Avbgandro constant. Since $.|N_A| = \frac{1}{STV(mol^{-1})} = STV(am^2s^{-1}) = \frac{1}{137}(2.4720661623652209 \times 10^{34})^2(0.7416198487095662 \times 10^{43})^{-1} = 6.0147595191367914 \times 10^{23}$. then we get $N_A = 6.0147595191367914 \times 10^{23} mol^{-1}$。

Thirdly to find out STC of thermodynamic temperature. For this purpose, theorectical value of k_B shoud be first figure out. Through calculation we can get the result as

$$|k_B| = STV\left(\frac{1}{|G|m}\right)\frac{a^{-1}}{|N_A|\times10^{-2}}\frac{(2.4720661623652209\times10^{34})^{-1}}{6.6745786383860966\times10^{-11}}\frac{137}{6.0147595191367914}$$

$= (0.\dot{0}\dot{6} \times 10^{-23})(22.7773029934306606) = 1.3804426056624643 \times 10^{-2}$. So $k_B = |k_B|JK^{-1} = 1.3804426056624643 \times 10^{-23} JK^{-1}$.

By definiton of constant physical quantity, $STV(k_B) = STV(|k_B|JK^{-1}) = 1$, thus $STV(K) = STV(|k_B|J)$. As $STC(J) = |G|m^5s^{-4}$, then$STV(K) = STV(|k_B||G|m^5s^{-4})$. Substituting $|k_B| = STV\left(\frac{1}{|G|m}\right)\frac{a^{-1}}{|N_A|\times10^{-23}}$ into it, we get

$STV(K) = STV\left(\left(\frac{1}{|G|m}\right)\frac{a^{-1}}{|N_A|\times10^{-23}}|G|m^5s^{-4}\right) = STV(\frac{a^{-1}}{|N_A|\times10^{-23}}m^4s^{-4})$. Removing

STV symbol from both side, we have $K=\frac{a^{-1}}{|N_A|\times10^{-23}}m^4s^{-4}$. So we get STC of thermodynamic temperature unit

$$STC(K)=\beta m^4s^{-4},\text{ where }\beta=\frac{a^{-1}}{|N_A|\times10^{-23}}=22.777302993\ ...$$

According SI physical unit symbol relations, we can get following STCs of derived quantities in thermodynamics and statistical mechanics.

•By $Wm^{-1}K^{-1}$, we get STC of heat conductivity quantity

$$STC(Wm^{-1}K^{-1})=\frac{|G|m^5s^{-5}}{m^1\beta m^4s^{-4}}=\frac{1}{\beta}(|G|m^0s^{-1}).$$

•By $S=JK^{-1}$, we get STC of entropy quantity

$$STC(S)=\frac{|G|m^5s^{-4}}{\beta m^4s^{-4}}=\frac{1}{\beta}(|G|m^1s^0).$$

•By natural entropy $S_n=\beta S$, we get STC of natural entropy unit

$$STC(S_n)=|G|m^1s^0.$$

•By $JK^{-1}kg^{-1}$, we get STC of specific entropy unit

$$STC(JK^{-1}kg^{-1})=\frac{|G|m^5s^{-4}}{|G|m^3s^{-2}\beta m^4s^{-4}}=\frac{1}{\beta}m^{-2}s^2.$$

•By $kg^{-1}mol^{-1}s^3A^2$, we get STC of molar conductivity unit

$$STC(kg^{-1}mol^{-1}s^3A^2)=\frac{s^3(\sqrt{|G|}m^3s^{-3})^2}{|G|m^3s^{-2}\,am^2s^{-1}}=a^{-1}m^1s^0.$$

•By $JK^{-1}mol^{-1}$, wer get STC of molar entropy unit

$$STC(JK^{-1}mol^{-1})=\frac{\frac{1}{\beta}(|G|m^1s^0)}{am^2s^{-1}}=\frac{a^{-1}}{\beta}(|G|m^{-1}s^1).$$

•By m^3mol^{-1}, we get STC of molar volume unit

$$STC(m^3mol^{-1})=\frac{m^3}{am^2s^{-1}}=a^{-1}m^1s^1.$$

•By $molm^{-3}$, we get STC of molar density unit

$$STC(molm^{-3})=\frac{am^2s^{-1}}{m^3}=am^{-1}s^{-1}.$$

•By $Jmol^{-1}$, we get STC of molar energy quantity

$$STC(Jmol^{-1})=\frac{|G|m^5s^{-4}}{am^2s^{-1}}=a^{-1}(|G|m^3s^{-3}).$$

3.7.4 Acquisition of STC of Basic and Derived Quantities in Radiology and Optics

•By Wm^{-2}, we get STC of radiant flux density unit

$$STC(Wm^{-2})=|G|m^3s^{-5}.$$

•By $M_{e\lambda} = Wm^{-2}\lambda^{-1}$, we get STC of emissivity unit

$STC(M_{e\lambda}) = |G|m^2s^{-5}$.

•By $M_{ef} = Wm^{-2}Hz^{-1}$, we get STC of emissivity unit

$STC(M_{ef}) = |G|m^3s^{-4}$.

•By definition of luminous intensity,[1]可, we get STC of luminous intensity unit

$STC(cd) = \frac{1}{683}Wsr^{-1} = (\frac{sr^{-1}}{683})|G|m^5s^{-5}$.

•By $lm = cd \bullet sr$, we get STC of luminous flux quantity

$STC(lm) = (\frac{1}{683})|G|m^5s^{-5}$.

•By cdm^{-2}, we get STC of luminance quantity

$STC(cdm^{-2}) = (\frac{sr^{-1}}{683})|G|m^3s^{-5}$.

•By lmm^{-2}, we get ST of illuminace quantity

$STC(lmm^{-2}) = (\frac{1}{683})|G|m^3s^{-5}$.

•By lmW^{-1}, we get STC of luminouis efficacy quantity

$STC(lmW^{-1}) = (\frac{1}{683})m^{-2}s^0$.

By confirming space-time configurations of known physical units and physical quantities the above, it can be concluded that composition of space-time components of all known physical quantities follows the rule of space-time configuration, and no counterexamples have been found. There are also individual supplementary units in the SI system of units such as the solid angle, its unit is the steradian (sr). Since supplementary units do not refer to actual physical quantities, so neither the rule of space-time configuration nor the rule of space-time value is applicable to supplementary units.

4，Rule of Space-Time Value

Based on the rule of space-time configuration, $STV(m)$ and $STV(m)$, the rule of space-time value is directly obtained.

4.1 Expression of the Rule

$$\left\{\begin{array}{c} All\ any\ physical\ quantity\ designated\ by\ physical\ unit\ (DimA) \\ has\ numerical\ attributes, that\ is\ expressed\ by\ spacetime\ values \\ STV(DimA) = STV(Bm^a s^{-b}) = B \times STV(m^a) \times STV(s^{-b}) \\ where, STV(DimA)\ \text{said space time values of physical unit,} \\ a, b\ \text{are integers and}\ a, b = 0, \pm1, \pm2, \pm3, \pm4, \pm5\,; \\ B\ \text{is coefficient and}\ B \geq |G| = 6.6745786383860966 \times 10^{-11}; \\ STV(m)\ \text{and}\ STV(s)\ \text{said space time values of length unit and} \\ time\ unit\ respectively, and \\ STV(m) = 2.4720661623652209 \times 10^{34} \\ STV(s) = 0.7416198487095662 \times 10^{43} \\ To\ call\ this\ law\ as\ rule\ of\ space\ time\ values\ of\ physical\ units, \\ or\ the\ rule\ of\ space\ time\ values \end{array}\right\}$$

$$\text{Eq.}\, 4-1$$

4.2 Interence

For any physical quantity $A = |A|DimA$, space-time value of the physical quantity is equal to

$$\left\{\begin{array}{c} STV(A) = STV(|A|Bm^a s^{-b}) \\ = |A| \times B \times STV(m^a) \times STV(s^{-b}) \\ where, A - physical\ quantity, \\ m^a - dimensional\ spaces, s^{-b} - dimensional\ times, \\ STV - spacet\ ime\ value, a, b = 0, \pm1, \pm2, \pm3, \pm4, \pm5. \end{array}\right\}$$

$$\text{Eq.}\, 4-2$$

4.3 Interpretation to the Rule

All real physical quantities designated by the physical units (*DimA*) have numerical attributes. These attributes originate from numerical nature of multi-dimensional space-time structure of physical quantities and can be expressed by space-time values of physical units. Space-time values are regulation to modulus of the constant physical quantity and also regulation to numerical equivalent relationship between physical quantities. Space-time values of physical units are unique.

4.4 Examples of STV

$STV(kg) = 1.8333333 \times 10^{7}$ and uniqueness

$STV(K) = 0.2812012715238 \times 10^{-32}$ and uniqueness

$STV(A) = 0.302585535036 \times 10^{-30}$ and uniqueness

$STV(mol) = 6.014759519136 \times 10^{23}$ and uniqueness

$STV(J) = 2.\dot{0}3\dot{7} \times 10^{-10}$ and uniqueness

$STV(N) = 0.824022054121 \times 10^{-44}$ and uniqueness

$STV(kgms^{-1}) = 0.06\dot{1} \times 10^{0}$ and uniqueness

$STV(kgm^{2}s^{-1}) = 1.51070709922 \times 10^{33}$ and uniqueness

$STV(kgm^{-3}) = 0.1213559752433 \times 10^{-9}$ and uniqueness

$STV(C) = 2.24403438715 \times 10^{12}$ and uniqueness and uniqueness

$STV(JT^{-1}) = 1.84913382522 \times 10^{38}$ and uniqueness

$STV(W_b) = 6.73210316147 \times 10^{20}$ and uniqueness

$STV(Vm^{-1}) = 0.367205626989 \times 10^{-5}$ and uniqueness

$STV(Am^{-1}) = 0.122401875663 \times 10^{-64}$ and uniqueness

5，Completable Physical Constant Theorem

Elementary constants signed C_p are divided into two categories which are the first category and the second category of elementary constants. Criterion of judgement is that if $STV(C_p) \equiv 1$, then the C_p, is belonging to the first category, otherwise belonging t the second category.

The first category of elementary constants are collectively referred as completable physical constants, the second ones are referred as default physical constants. The completable physical constants are a large class of elementary constants, including some known elementary constants in physics, such as the gravitational constant, Planck constant, the speed of light in vacuum, Boltzmann constant, Avogadro constant, molar gas constant, etc., and also include a large number of the constant physical quantities. All completable constants can be solved uniformly by a formula so called completable constant theorem.

5.1 Expression of the Theorem

$$\left\{\begin{array}{c} For\ any\ physical\ unit\ (DimA), there\ would\ exist\ an \\ corresponding\ physical\ constnat\ C_P\ , and \\ C_P = A_G = \dfrac{1}{STV(DimA)} DimA = \dfrac{1}{STV(Bm^{a}s^{-b})} DimA \\ STC(C_P) = m^{0}s^{0} \\ STV(C_P) \equiv 1 \\ where, STV(DimA)\ said\ spacetime\ value\ of\ the\ DimA, \\ Bm^{a}s^{-b}\ said\ spacetime\ configuraiton\ of\ the\ DimA, \\ A_G\ said\ constant\ physical\ quantity\ for\ the\ DimA. \end{array}\right\} \text{Eq. } 5-1$$

5.2 Space-Time Nature of Completable Physical Constant

All of completable physical constants have same space-time nature that is of 0 dimensional space and 0 dimensional time. Since both 0 dimensional space and time are equivalent to 1, so STV of completable physical constant is constantly equal to 1.

$$\left.\begin{cases} STC(A_G) = m^0 s^0 \\ STV(A_G) \equiv 1 \end{cases}\right\} Eq.5-2$$

Proof: By the theorem $A_G = \frac{1}{STV(Bm^a s^{-b})} DimA$, and taking STV at both sides, then $STC(A_G) = STC[\frac{1}{STV(Bm^a s^{-b})} dimA]$. Since $STC(dimA) = Bm^a s^{-b}$ and according to exchangeability of $TC\&STV$, we get $STC(A_G) = STC(\frac{1}{Bm^a s^{-b}} Bm^a s^{-b}) = m^0 s^0$.

---Done.

Note: exchangeability of $TC\&STV$ means that $STC(dimA)\ and\ STV(dimA)$ can be swapped as situation requires.

5.3 An Exercise

Try to solve the gravitational constant, Planck's constant, the speed of light, Boltzmann's constant, Avogadro's constant, and the molar gas constant uniformly based on the completable constant theorem.

Solution: According to the completable constant theorem, we have $C_P = \frac{1}{STV(DimA)} DimA$, then we get ▪$C_P = \frac{STV(kg)STV(s^2)}{STV(m^3)} m^3 kg^{-1} s^{-2}$. .Substituting the space-time values of kilogram, second, and meter, thus

$C_P = \frac{(1.8333333\times10^7)(0.7416198487095662\times10^{43})^2}{(2.4720661623652209\times10^{34})^3} m^3 kg^{-1} s^{-2} = 6.67457851 \times 10^{-1}\ m^3 kg^{-1} s^{-2} = G$ (gravitational constant)

Observed data: : $6.67430 \times 10^{-1}\ m^3 kg^{-1} s^{-2}$.[3]

▪$C_P = \frac{1}{STV(Js)} Js$. Substituting the space-time values of joule and second, we get:

$C_P = \frac{1}{(2.\dot{0}3\dot{7}\times10^{-10})(0.7416198487095662\times10^{43})} Js = 6.619416831457 \times 10^{-34} Js = h$

Observed data: $6.62607015 \times 10^{-34} Js$.[3]

▪$C_P = \frac{1}{STV(ms^{-1})} ms^{-1}$. Substituting the space-time values of meter and second, we get:

$C_P = \frac{0.7416198487095662\times10^{43}}{2.4720661623652209\times10^{34}}\ ms^{-1} = 2.999999999999 \times 10^8 ms^{-1} = c$ (speed of light in vacuum

Observed data: $2.99792458 \times 10^{8} ms^{-1}$.[3]

▪$C_P = \frac{1}{STV(JK^{-1})} JK^{-1}$. Substituting the space-time numerical values of joule and Kelvin, we get:$C_P = \frac{2.812012715238\times10^{-33}}{2.\dot{0}\dot{3}\dot{7}\times10^{-10}} JK^{-1} = 1.380442605662 \times 10^{-2}\ JK^{-1} = k_B$.

Observed data: $1.380649 \times 10^{-23} JK^{-1}$.[3]

▪ $C_P = \frac{1}{STV(mol^{-1})} mol^{-1}$. Substituting the space-time value of mole, we get: $C_P = 6.014759519136 \times 10^{23} mol^{-1} = N_A$.

Observed data: $6.02214076 \times 10^{23} mol^{-1}$.[3]

▪$C_P = \frac{1}{STV(JK^{-1}mol^{-1})} JK^{-1}mol^{-1}$. Substituting the space-time values of joule, Kelvin, and mole, we get:$C_P = \frac{(2.812012715238\times10^{-33})(6.014759519136\times10^{23})}{2.\dot{0}\dot{3}\dot{7}\times10^{-10}} JK^{-1}mol^{-1}$

$= 8.3030303030 JK^{-1}mol^{-1} = R$ (molar gas constant or ideal gas constant).

Observed data: $8.314462618 JK^{-1}JK^{-1}mol^{-1}$.[3]

---Done.

The above theoretical calculation results differ slightly from the observed values. This is because inevitable interference with the measured physical quantity during observation could causes measurement results to deviate from the inherent value of the measured physical quantity. The complete physical constant theorem clearly shows that the above six cornerstone elementary constants discovered in physics are nothing more than member of a vast family of completable physical constants, and are just tip of iceberg of the first category of elementary constants.

5.4 Constant Physical Quantities

By the completable physical constant theorem, some constant physical quantities commonly used can be calculated as follows.

Constant length $L_G = 0.404519917477 \times 10^{-34} m$ and $STV(L_G) \equiv 1$

Constant time $t_G = 1.34839972492\ 10^{-43} s$ and $STV(t_G) \equiv 1$。

Constant mass $M_G = 0.\dot{5}\dot{4} \times 10^{-7} kg$ and $STV(M_G) \equiv 1$

Constant temperature $T_G = 0.355617168649 \times 10^{33} K$ and $STV(T_G) \equiv 1$

Constant frequency $f_G = 0.741619848709 \times 10^{43} Hz$ and $STV(f_G) \equiv 1$

Constant momentum $p_G = 16.\dot{3}\dot{6} \times 10^0 kgms^{-1}$ and $STV(p_G) \equiv 1$

Constant force $N_G = 1.213559762433 \times 10^{44} N$ and $STV(N_G) \equiv 1$

Constant acceleration $a_G = 2.224859546128 \times 10^{51} ms^{-2}$ and $STV(a_G) \equiv 1$

Constant energy $J_G = 0.4\dot{9}\dot{0} \times 10^{10} J$ and $STV(J_G) \equiv 1$

Constant area $s_G = 0.1\dot{6}\dot{3} \times 10^{-68} m^2$ and $STV(S_G) \equiv 1$

Constant volume $V_G = 0.661941683145 \times 10^{-103} m^3$ and $STV(V_G) \equiv 1$

Constant current intensity $I_G = 3.304850642904 \times 10^{30} A$ and $STV(I_G) \equiv 1$

Constant speed $v_G = c = 3.\dot{0} \times 10^8 ms^{-1}$ and $STV(v_G) \equiv 1$

Constant entropy $k_B = 1.380442605662 \times 10^{-23} JK^{-1}$ and $STV(k_B) \equiv 1$

Constant angular moment $h = 6.619416831457 \times 10^{-34} Js$ and $STV(h) \equiv 1$

Constant mass density $\rho_G = 8.24022054121 \times 10^{95} kgm^{-3}$ and $STV(\rho_G) \equiv 1$

Constant charge $C_G = 4.456259697815 \times 10^{-1}\ C$ and $STV(C_G) \equiv 1$

Constant magnetic flux $\emptyset_G$ =1.485419899271$\times 10^{-2}\ W_b$ and $STV(\emptyset_G) \equiv 1$

5.5 Theorectical Predictions

To predict six elementary physical constants based on the theorem of completable physical constant.

(1) There exist an elementary physical constant called as ratio of electric current to thermodynamic temperature, signed $(AK^{-1})_G$. By the theorem, we get

$$(AK^{-1})_G = \frac{STV(K)}{STV(A)} AK^{-1} = \frac{2.812012715238 \times 10^{-33}}{0.302585535036 \times 10^{-30}} AK^{-1}$$

$$= 9.293282028268 \times 10^{-3} AK^{-1}.$$

that is, $(AK^{-1})_G = 9.293282028268 \times 10^{-3} AK^{-1}$

Physical meaning: This physical constant is an constant physical quantity that reflects certain physical relation between electric current intensity and thermodynamic temperature, and also numerical equivalent relation of these two physical quantities.

(2) There exist an elementary physical constant called as ratio of thermodynamic temp--erature to electri current, signed $(AK^{-1})_G$. By the theorem, we get

$$(KA^{-1})_G = \frac{1}{(AK^{-1})_G} = 107.60461126 KA^{-1}.$$

that is, $(AK^{-1})_G = 107.60461126 KA^{-1}$.

Physical meaning: This physical constant is an constant physical quantity that reflects certain physical relation between thermodynamic temperature and electric current intensity, and also numerical equivalent relation of these two physical quantities.

(3) There exist an elementary physical constant called as constant magnetic flux, signed fW_{bG}. By the theorem, we get

$$W_{bG} = \frac{1}{STV(W_b)} W_b = \frac{1}{0.673210316147 \times 10^{21}} W_b = 1.485419899271 \times 10^{-21} W_b.$$

that is, $W_{bG} = 1.485419899271 \times 10^{-2}\ W_b$

Physical meaning: This physical constant is an constant physical quantity

(4) There exist an elementary physical constant called as constant electric charge, signed C_G. By the theorem, we get

$$C_G = \frac{1}{STV(C)} C = \frac{1}{0.22440343871 \times 10^{13}} C = 4.456259697815 \times 10^{-13} C,.$$

that is, $C_G = 4.456259697815 \times 10^{-13} C$

Physical meaning: This physical constant is an constant physical quantity

(5) There exist an elementary physical constant called as constant permeabiity, signed. μ_G By the theorem, we get

$$\mu_G = \frac{STV(A^2)}{STV(N)} NA^{-2} = \frac{(0.302585535036 \times 10^{-3}\ )^2}{0.82402205412 \times 10^{-44}} NA^{-2} = 0.\dot{1} \times 10^{-16} NA^{-2}.$$

that is, $\mu_G = 0.\dot{1} \times 10^{-16} NA^{-2}$.

Physical meaning: This physical constant is an constant physical quantity, which has relation with speed of light $c = \sqrt{\frac{1}{\mu_G}}$.

Note: In MS system, vacuum permittivity is an physical constant without physical unit $\epsilon_0 = |\epsilon_0| = 8.854187817 \times 10^{-1}$, since$\epsilon_0 = |\epsilon_0| \frac{Nm^2}{C^2} = |\epsilon_0| \frac{|G| m^4 s^{-4} m^2}{\left(\sqrt{|G|} m^3 s^{-2}\right)^2} = |\epsilon_0|$.

(6) There exist an elementary physical constant called as ratio of energy to electric current, signed. $(JA^{-1})_G$. By the theorem, we get

$$(JA^{-1})_G = \frac{STV(A)}{STV(J)} JA^{-1} = \frac{0.302585535036 \times 10^{-30}}{2.037037037037 \times 10^{-10}} JA^{-1} = 1.48541989926 \times 10^{-21} JA^{-1},$$

that is, $(JA^{-1})_G = 1.48541989926 \times 10^{-21} JA^{-1}$.

Physical meaning: This physical constant is an constant physical quantity that reflects certain physical relation between energy and electric current intensity, and also numerical equivalent relation of these two physical quantities.

6, Physical Units Equivalence Theorem

Energy conversion factors[1] in physics reflect numerical relation between some physical quantities based on some scattered physical formulas. The physical units equivalence theorem summarizes those numerical relations only in one sentence and uses only one formula to achieve the unified solution to numerical equivalent relation between any two physical quantities. This theorem reveals numerical equivalent relation and equivalent value between any two physical units. The equivalent value between physical units specifies conversion quantity between corresponding characteristic physical quantities when physical form of matter is transformed.

6.1 Expression of the Theorem

$$\left\{\begin{array}{c}\text{A physical unit } DimA \textit{ is equivalent to another physical unit } DimA^{*} \\ \textit{under their equivalent value that is equal to ratio of} \\ \textit{spacetime values of these two physical units.} \\ \textit{Called such relationship as equivalent relation of physical units.} \\ \textit{that is}, DimA = STV\left(\frac{DimA}{DimA^{*}}\right)DimA^{*} = P \times DimA^{*} \\ \text{where, } P = STV\left(\frac{DimA}{DimA^{*}}\right) - \text{equivalent value of the physical units.}\end{array}\right\} \text{Eq. } 6-1$$

Proof: For any two constant physical quantities respectively expressed as $A_G = |A_G|DimA$ and $A_G^{*} = |\,A_G^{*}\,|Dim\,A^{*}$. By definition of constant physical quantity, we have $\frac{A_G}{A_G^{*}} = \frac{|A_G|DimA}{|A_G^{*}|DimA^{*}} = 1$, so $DimA = \frac{|A_G^{*}|}{|A_G|}DimA^{*}$. According to the reciprocal modulus theorem, we have $|A_G| = \frac{1}{STV(DimA)}$ and $|A_G^{*}| = \frac{1}{STV(DimA^{*})}$. Introducing them into $DimA = \frac{|A_G^{*}|}{|A_G|}DimA^{*}$, then we get $DimA = STV(\frac{DimA}{DimA^{*}})DimA^{*}$. ---Done.

6.2 Properties of the Theorem

(1) Equivalent value between physical unit $DimA$ and physical unit $DimA^{*}$ is equal to modulus of the constant physical quantity that has an composite physical unit of $\frac{DimA^{*}}{DimA}$.

Proof: By definition of constant physical quantity, the constant physical quantity with composite physical unit $\frac{DimA^{*}}{DimA}$ is equal to $(\frac{DimA^{*}}{DimA})_{\mathrm{G}} = STV\left(\frac{DimA}{Dim\ \ ^{*}}\right)\frac{DimA^{*}}{DimA}$. Compare this result with Equ.6-1, we can get this property. ---Done.

(2) Eqvivalent values are all constant and uniqueness.

Proof: Since constant physical quantities are invariants, according to the property (1), equivalent value of $\frac{DimA}{DimA^*}$ between any two physical units must be a constant value. Furthermore, because space-time values of physical units are all uniqueness, and the equivalent value is equal to ratio of space-time values of any two physical units, the equivalent value between any two physical units must also be uniqueness.

6.3 Calculation Examples

(1) To solve numerical equivalent relation and equivalent value between thermodynamictemperature and electric current intensity.

Solution: By the equivalent theorem, we have $K = \frac{STV(K)}{STV(A)}A = \frac{2.812012715238\times10^{-33}}{0.302585535036\times10^{-30}}A = 9.293282028268 \times 10^{-3}A$. that is, numerical equivalent relationbetween these two physical units is $K = 9.293282028268 \times 10^{-3}A$, their equivalent value is equal to $9.293282028268 \times 10^{-3}$.

(2) To solve numerical equivalent relation and equivalent value between mass and energy.

Solution: By the equivalent theorem, we have $kg = \frac{STV(kg)}{STV(J)}J = \frac{1.8333333\times10^{7}}{2.037037037037\times10^{-10}}J = 9 \times 10^{16}J$. that is, numerical equivalent relationbetween these two physical units is $kg = 9 \times 10^{16}J$, their equivalent value is equal to 9×10^{16}。

6.4 Inference

Energy conversion factors follow the physical units equivalence theorem.

Table-1 Numerical Equivalent Relatioin and Equivalent Values of Seven units

Equivale-Values $STV(\frac{dimA}{dimA^*})$	m	s	kg	K	A	mol	J
$m =$	1	0.3333×10^{-8}	1.3484×10^{27}	0.8791×10^{67}	8.1698×10^{64}	0.4110×10^{11}	1.2136×10^{44}
$s =$	2.9999×10^{8}	1	0.4045×10^{36}	0.2637×10^{76}	2.4509×10^{73}	0.1233×10^{20}	0.3640×10^{53}

$kg =$	0.7416×10^{-27}	2.4720×10^{-36}	1	0.6520×10^{40}	6.0589×10^{37}	0.3048×10^{-16}	8.9999×10^{16}
$K =$	1.1377×10^{-67}	3.7923×10^{-76}	1.5341×10^{-40}	1	9.2948×10^{-3}	0.4676×10^{-56}	1.3804×10^{-23}
$A =$	0.1224×10^{-64}	0.4080×10^{-73}	0.1651×10^{-37}	0.1076×10^{3}	1	0.5031×10^{-54}	0.1485×10^{-20}
$mol =$	2.4331×10^{-11}	8.1103×10^{-20}	3.2807×10^{16}	2.1386×10^{56}	1.9877×10^{54}	1	2.9527×10^{33}
$J =$	0.8240×10^{-44}	2.7467×10^{-53}	0.1111×10^{-16}	0.7243×10^{23}	6.7321×10^{20}	0.3386×10^{-33}	1

7, Default Theorem

The Default Theorem provides new method for solving physical equations, which indicates that magnitude of the characteristic physical quantity of any physical equation is equal to product of total space-time value of the equation and relevant constant physical quantity.

7.1 Expression of the Theorem

$$\left\{\begin{array}{c}\text{For any physcial euqiton } F = f(x_i, y_j, z_k)\text{, then its solution is equal to} \\ F = STV\left[f\left(y_j, z_k\right)\right]A_G = STV\left[f\left(y_j, z_k\right)\right]|A_G|DimA \\ \text{where, } F \text{ — physcial quantity to be solved,,} \\ x_i \text{ — constant factor,, } y_j \text{ — default factor, } z_k \text{ — numberical facor,} \\ A_G \text{ — the relevant constant physical quantity,} \\ DimA \text{ — physical unit,} \\ STV\left[f\left(y_j, z_k\right)\right] \text{ — taking spacetime value of } f\left(y_j, z_k\right). \end{array}\right\}$$

$$\text{Eq. } 7-1$$

Note: For physical equations, if the space-time value of a physical quantity equals one, it is called a constant factor, otherwise, called as default factor.

7.2 Interpretation to the Theorem

A specific physical process described by physical equation has nature of multi-dimensional space-time structure, which is formed by all multi-dimensional space-time structures of various physical quantities involved in the process. Magnitude of physical quantity to be solved (the characteristic physical quantity) of the equation is uniquely stipulated by space-time value of the composite multi-dimensional space-time structure and the constant physical quantity relevant to the characteristic physical quantity.

7.3 Verification to the Theorem

Based on some physical laws, equations, and elementary physical constants, calculational verifications is provided for correctness of relevant conclusions such as the defect theorem, space-time configuration, space-time value, and constant physical quantities. The verifiers include the law of universal gravitation, Newton's second law, energy-frequency formula, mass-energy equation, derivation of the mass-energy equation, Coulomb's law, fine-structure constant, vacuum impedance, Kepler's third law, and Ampère's circuital law.

7.3.1 By he Law of Universal Gravitation to Verify

Solution: Based on $F = GM_1M_2/R^2$ and the default theorem, we have $F = STV(\frac{kg^2}{m^2})N_G$. Substitutijng $STV(kg)$, $STV(m)$, N_G into it , we get

$$F = \frac{\left(1.8\dot{3} \times 10^7\right)^2}{(2.4720661623652209 \times 10^{34})^2} \times 1.213559752433 \times 10^{44} N$$

$= 6.674578638386 \times 10^{-11} N = |G|N$。

This result is same as the ones acquired by traditional calculation method.

7.3.2 By Newton's Second Law to Verify

Solution: Based on $F = Ma$ and the default theorem, we get $F = STV(Ma)N_G = STV(|M||a|(|G|m^3s^{-2}ms^{-2})\frac{1}{STV(|G|m^4s^{-4})}N = |M||a|N$

This result is same as the ones acquired by traditional calculation method.

7.3.3 By Energy-Frequency Formula to Verify

Solution: Based on $E = hv$ and the default theorem, we get $E = STV(v)J_G = |v|STV(s^{-1})\left(0.4\dot{9}\dot{0} \times 10^{10}J\right) = |v|(1.348399724926 \times 10^{-43})\left(0.4\dot{9}\dot{0} \times 10^{10}J\right) = |v|6.619416831454 \times 10^{-34}J = |v||h|J$.

This result is same as the ones acquired by traditional calculation method.

7.3.4 By Mass-Energy Equation to Verify

Solution: Based on $E = Mc^2$ and the default theorem, we get $E = STV(M)J_G = STV(|M|kg)J_G = |M|(1.8333333 \times 10^7)\left(0.4\dot{9}\dot{0} \times 10^{10}J\right)$

$= |M|(8.999999836 \times 10^{16})J = |M||c|^2J$.

This result is same as the ones acquired by traditional calculation method.

7.3.5 Acquisition of Mass-Energy E quation

Supposed mass of any object expressed by M and $M = |M|kg$. To take STC at both side, we have $STC(M) = STC(|M||G|m^3s^{-2})$. Since there always exist the constant physical quantity $(m^2s^{-2})_G = \frac{1}{STV(m^2s^{-2})}m^2s^{-2}$ and $STV\{m^2s^{-2}\}_G = 1$, so we can Introduce this quantity at both side of $STC(M) = STC(|M||G|m^3s^{-2})$, then we have $STC(M)\frac{1}{STV(m^2s^{-2})}m^2s^{-2} = STC(|M||G|m^3s^{-2})\frac{1}{STV(m^2s^{-2})}m^2s^{-2}$.

Given $\frac{1}{STV(m^2s^{-2})} = |c|^2$, $STC(J) = |G|m^5s^{-4}$, thus $STC(M)c^2 = |M||c|^2STC(J)$. Removing symbole of STC from both side of it, then we get $Mc^2 = |M||c|^2J$. Let $E = |M||c|^2J$, so we finally get $Mc^2 = E$. that is, $E = Mc^2$, where c said speed of light constant, E said total energies of the object.

7.3.6 By Coulomb's Law to Verify

Soluton: By $F = q_1q_2/4\pi\epsilon_0r^2$ and the default theorem, we get $F = STV(\frac{C^2}{4\pi\epsilon_0m^2})N_G$. Given $STC(C) = \sqrt{|G|}m^3s^{-2}$, $STC(N) = |G|m^4s^{-4}$, $N_G = \frac{1}{STV(|G|m^4s^{-4})}N$, $\epsilon_0 = |\epsilon_0|$, thus $F = STV\left(\frac{\left(\sqrt{|G|}m^3s^{-2}\right)^2}{4\pi|\epsilon_0|m^2}\frac{1}{|G|m^4s^{-4}}\right)N = \frac{1}{4\pi|\epsilon_0|}N$.

This result is same as the ones acquired by traditional calculation method.

7.3.7 By the Fine Structure Constant to Verify

Solution: To take STV of the fine structure constant, *we have* $STV\left(\frac{e^2}{4\pi|\varepsilon_0|\left(\frac{h}{2\pi}\right)c}\right) = STV\left(\frac{e^2}{2|\varepsilon_0|}\right) = STV\left(\frac{|e|^2C^2}{2|\varepsilon_0|}\right)$ .Introducing $|\epsilon_0| = 8.854187817 \times 10^{-12}$, $STV(C) = 0.2244034387157195 \times 10^{13}$, $|e| = 1.60217733 \times 10^{-19}$ into the equation we get $STV\left(\frac{e^2}{4\pi|\varepsilon_0|\left(\frac{h}{2\pi}\right)c}\right) = STV\left(\frac{(1.60217733\times10^{-19})^2(0.224403438715\times10^{13})^2}{2\times8.854187817\times10^{-12}}\right) = 0.0072996402$.

The resut by traditional calculation method is equal to 0.00729735308.

7.3.8 By Vacuum Impedance to Verigy

Solution: In the MS System, vacuum impedance is equal to ratio of the constant resistance to vacuum permittivity . that is, $Z_0 = \frac{\Omega_G}{\epsilon_0} = \frac{\Omega_G}{|\epsilon_0|} = \frac{0.\dot{3}\times10^{-8}\Omega}{8.854187817\times10^{-1}} =$

376.469688945Ω.

Definition of vacuum impedance is $Z_0 = \sqrt{\frac{\mu_0}{\epsilon_0}} = \sqrt{\frac{4\pi\times10^{-7}}{8.854187817\times10^{-12}}}\Omega = 376.73\ \Omega$.

7.3.9 By Kepler's Third Law to Verify

Solution: This verification is to further prove correctness of STCs of unit time , length and mass. The Kepler's third law is expressed as

$\frac{a^3}{T^2} = \frac{GM}{4\pi^2}$, where M said mass of the sun. (1)

Introducing $\mathrm{STC}(m) = m^1 s^0$, $STC(s) = m^0 s^1$, $STC(kg) = |G|m^3 s^{-2}$ and $STC(|G|m^3(|G|m^3 s^{-2})^{-1} s^{-2}) = m^0 s^0$ into expression (1), then we have

$STC(\frac{|a|^3 m^3 s^0}{|T|^2 m^0 s^2}) = STC(\frac{m^0 s^0 |M||G|m^3 s^{-2}}{4\pi^2})$, and then $STC(\frac{|a|^3}{|T|^2} m^3 s^{-2}) = STC(\frac{|M||G|}{4\pi^2} m^3 s^{-2})$

Removing STC symbole from both side, we get $\frac{|a|^3}{|T|^2} m^3 s^{-2} = \frac{|M||G|}{4\pi^2} m^3 s^{-2}$.

STCs are same at both sides of the equation the above.

7.3.10 By Ampère's Circuital Law to Verify

Solution: This verification is to further prove correctness of $STC(T) = \sqrt{|G|}m^0 s^{-1}$, $dl\ STC(A) = \sqrt{|G|}m^3 s^{-3}$, $STC(NA^{-2}) = m^{-2} s^2$. The

The Ampère's Circuital Law is expressed as $\oint_l B \cdot dl = \mu_0 \sum_{i=1}^{n} I_i$, where B said magnetic inductiokn intensity, dl said element of loop, μ_0 said vacuum permeability, I_i said electric current in the loop. Introducing $STC(T) = \sqrt{|G|}m^0 s^{-1}$、 $STC(A) = \sqrt{|G|}m^3 s^{-3}, STC(NA^{-2}) = m^{-2} s^2$ into the expression, we get

$$\oint_l |B| \cdot |dl| \sqrt{|G|} m^1 s^{-1} = |\mu_0| m^{-2} s^2 \sum_{i=1}^{n} |I_i| \sqrt{|G|} m^3 s^{-3} = |\mu_0| \sum_{i=1}^{n} |I_i| \sqrt{|G|} m^1 s^{-1}$$

STCs at both sides of the equation are same.

8, Multi-dimensional Space-Time Structured

The multi-dimensioinal space-time structure, MSTS FOR SHORT, is common nature universally possessed by all physical quantities that is physically represented by space-time configuration, space-time value and constant physical quantity.

8.1 Expression of MSTS

For any physical quantity, its nature of MSTS is expressed as

$$\left\{\begin{array}{c} STC(DimA) = Bm^a s^{-b} \\ STV(DimA) = B \times STV(m^a) \times STV(s^{-b}) \\ A_G = \frac{1}{STV(DimA)} DimA = \frac{1}{STV(Bm^a s^{-b})} DimA \\ \text{其中，} a, b = 0, \pm 1, \pm 2, \pm 3, \pm 4, \pm 5\text{。} \end{array}\right\} 8-1\text{式}$$

8.2 Examples of MSTS

Although we up to now have no idea about physical meaning of 4th dimensional space, 5th dimensional space, 2nd dimensional time, 3rd dimensi0onal time, 4th dimensional time and 5th dimensional time, but we are so familiar to physical meaning of something comprised of them. For instance,

(1) we don't know physical meaning of 2nd dimensional time s^2 in STC of $|G|m^3 s^{-2} = |\text{G}|\frac{m^3}{s^2}$, but know that of 3rd dimensional space m^3. Now we further know that the MSTS of $\left\{\begin{array}{c} STC(kg) = |G|m^3 s^{-2} \\ STV(kg) = 1.8\dot{3} \times 10^7 \\ M_G = 0.\dot{5}\dot{4} \times 10^{-7} kg \end{array}\right\}$ as a whole has physical property of unit mass (kg).

(2) we don't know physical meaning of 5th diemensional space m^5 and 4th dimensional time s^4 in STC of, $|G|m^5 s^{-4} = |\text{G}|\frac{m^5}{s^4}$, now we know that the MSTS of $\left\{\begin{array}{c} STC(J) = |G|m^5 s^{-4} \\ STV(J) = 2.\dot{0}3\dot{7} \times 10^{-10} \\ J_G = 0.4\dot{9}\dot{0} \times 10^{10} J \end{array}\right\}$ as a whole has physical property of unit energy (J).

(3) we don't know physical meaning of 4th diemensional space m^4 and 4th dimensional time s^4 in STC of, $|G|m^4 s^{-4} = |\text{G}|\frac{m^4}{s^4}$, now we know that the MSTS of $\left\{\begin{array}{c} STC(N) = |G|m^4 s^{-4} \\ STV(N) = 0.8240 \times 10^{-44} \\ N_G = 1.2136 \times 10^{44} N \end{array}\right\}$ as a whole has physical property of unit force (N).

(4) we don't know physical meaning of 5th dimensional time s^5 in STC of $|G|m^3 s^{-5} = |\text{G}|\frac{m^3}{s^5}$, but know that of 3rd dimensional space m^3. Now we further know that the MSTS of $\left\{\begin{array}{c} STC(Wm^{-2}) = |G|m^3 s^{-5} \\ STV(Wm^{-2}) = 4.4946 \times 10^{-122} \\ (Wm^{-2})_G = 0.2225 \times 10^{122} Wm^{-2} \end{array}\right\}$ as a whole has physical property of unit

radiant flux density..

(5) we don't know physical meaning of 3rd dimensional time s^3 in STC of $\sqrt{|G|}m^3s^{-3} = \sqrt{|G|}\frac{m^3}{s^3}$, but know that of 3rd dimensional space m^3. Now we further know that the MSTS of $\left\{\begin{matrix} STC(A) = \sqrt{|G|}m^3s^{-3} \\ TV(A) = 0.3025 \times 10^{-30} \\ I_G = 3.3048 \times 10^{30}A \end{matrix}\right\}$ as a whole has physical property of unit electric current intensity (A).

(6) we don't know physical meaning of 5th diemensional space m^5 and 3rd dimensional time s^3 in STC of, $\sqrt{|G|}m^5s^{-3} = \sqrt{|G|}\frac{m^5}{s^3}$ now we know that the MSTS of $\left\{\begin{matrix} STC(JT^{-1}) = \sqrt{|G|}m^5s^{-3} \\ STC(JT^{-1}) = 0.1849 \times 10^{39} \\ m_G = 5.4079 \times 10^{-3}\ JT^{-1} \end{matrix}\right\}$as a whole has physical property of unit magnetic moment.

(7) we don't know physical meaning of 2nd dimensional time s^2 in STC of $|G|m^3s^{-2} = |\mathrm{G}|\frac{m^3}{s^2}$, but know that of 3rd dimensional space m^3. Now we further know that the MSTS of $\left\{\begin{matrix} STC(C) = \sqrt{|G|}m^3s^{-2} \\ STV(C) = 0.2244 \times 10^{13} \\ C_G = 4.4562 \times 10^{-13}C \end{matrix}\right\}$ as a whole has physical property of unit electric charge (C).

(8) we don't know physical meaning of 3rd dimensional time s^3 in STC of , $\sqrt{|G|}m^2s^{-3} = \sqrt{|G|}\frac{m^2}{s^3}$ but know that of 2nd dimensional space m^2. Now we further know that the MSTS of $\left\{\begin{matrix} STC(Am^{-1}) = \sqrt{|G|}m^2s^{-3} \\ STV(Am^{-1}) = 0.1224 \times 10^{-6} \\ (Am^{-1})_G = 8.1700 \times 10^{64}Am^{-1} \end{matrix}\right\}$ as a whole has physical property of unit magnetic field strength.

(9) we don't know physical meaning of 4th dimensional space m^4 and 4th dimensional time s^4 in STC of $\beta m^4s^{-4} = \beta\frac{m^4}{s^4}$, now we know $\beta = \frac{a^{-1}}{|N_A|\times 10^{-23}} = 22.7773 \ldots$ and the MSTS of $\left\{\begin{matrix} STC(K) = \beta m^4s^{-4} \\ STV(K) = 2.8120 \times 10^{-3} \\ T_G = 0.3556 \times 10^{33}K \end{matrix}\right\}$ as a whole has physical property of unit

thermodynamic temperature (K).

(9) we don't know physical meaning of 5th dimensional space m^5 and 5th dimensional time s^5 in STC of $|G|m^5s^{-5} = |\mathrm{G}|\frac{m^5}{s^5}$, now we know that the MSTS of $\begin{Bmatrix} STC(K) = \beta m^4 s^{-4} \\ STV(K) = 2.8120 \times 10^{-33} \\ T_G = 0.3556 \times 10^{33} K \end{Bmatrix}$ as a whole has physical property of unit power (W).

It should be pointed out that the 10-dimensional spacet-ime (5-dimensional spaces and 5-dimensional times) discussed in UPHY has no connection with both the 10-dimensional space described by various string theories and the n-dimensional space in mathematical descriptions.

It needs to emphasize that it is not that physical elements are multi-dimensional space-time structures, but that all physical elements possess attribute of multi-dimensional space-time structures.

8.3 Dual Physical Nature of NSTS

Some of NSTS can can possess dual or multiple physical properties.

For example, the NSTS of $\begin{Bmatrix} m^1 s^0 \\ STV(m^1 s^0) = 2.4720 \ldots \times 10^{34} \\ (m^1 s^0)_G = 0.4045 \times 10^{-3}\ m \end{Bmatrix}$ possesses physical properties of unit length (meter) and unit capacitance (Farad) .

Another example, the NSTS of $\begin{Bmatrix} m^1 s^{-1} \\ STV(m^1 s^{-1}) = 0.\dot{3} \times 10^{-8} \\ (m^1 s^{-1})_G = 3.\dot{0} \times 10^8 ms^{-1} \end{Bmatrix}$ possesses physical properties of unit velocity and unit conductance.

8.4 Equivalent Mass

Two or more multidimensional space-time structures undergo space-time transformation to form an certain amount of multidimensional space-time structure of mass element, then this transformed multidimensional space-time structure is defined as equivalent mass.

Equivalent mass produces same force effect as mass does, but it is not mass and differs from mass; it can possess direction and polarity which essentially differentiate from mass. Basic types of equivalent masses include but are not limited to:

▪Acceleration Equivalent Mass M_a

The multidimensional space-time structure of unit acceleration m^1s^{-2} and an constant physical quantity $\frac{|G|m^2s^0}{STV(|G|m^2s^0)}$ can form acceleration equivalent mass M_a via space-time transformation. that is,

$M_a = -\left\{\frac{|G|m^2s^0}{STV(|G|m^2s^0)}\right\}\{m^1s^{-2}\} = -\frac{|G|m^3s^{-2}}{STV(|G|m^2s^0)} = -\frac{kg}{STV(|G|m^2s^0)} =$
$-0.245163586350 \times 10^{-58}kg.$

The negative sign indicates that direction of this equivalent mass is opposite to the direction of acceleration.

$$\left\{\begin{matrix} M_a = -\frac{kg}{STV(|G|m^2s^0)} = -0.245163586350 \times 10^{-58}kg \\ where, M_a - equivalent\ mass\ of\ acceleration, \\ "-"said\ direction\ of\ the\ mass\ is\ apposite\ to\ that\ of\ acceration. \end{matrix}\right\}$$

$$\text{Eq.} 8-2$$

▪Reduced Acceleration Equivalent Mass $\widetilde{M}_a$

When an object is acted upon by an external force, it makes the object generates acceleration $a = |a|ms^{-2}$), that in turn simultaneously forms an equivalent mass , called as reduced equivalent mass of acceleration, expressed as $\widetilde{M}_a = |a|M_a$.

▪Equivalent Mass of Coulomb M_C

The multidimensional space-time structure of electric charge of unit Coulomb$\pm\sqrt{|G|}m^3s^{-2}$and an constant value $\frac{\sqrt{|G|}m^0s^0}{STV(\sqrt{|G|}m^0s^0)}$ can form Coulomb equivalent mass $M_C$via space-time transformation. that is,

$M_C = \left\{\frac{\sqrt{|G|}m^0s^0}{STV(\sqrt{|G|}m^0s^0)}\right\}\left\{\pm\sqrt{|G|}m^3s^{-2}\right\} = \pm\frac{|G|m^3s^{-2}}{\sqrt{|G|}} = \pm\frac{kg}{\sqrt{|G|}} =$
$\pm\frac{kg}{0.8169809445994500\times10^{-5}} = \pm1.224018756631 \times 10^5kg.$

The polarity of the equivalent mass is same as that of electric charges involved.

$$\left\{\begin{matrix} M_C = \pm\frac{kg}{\sqrt{|G|}} = \pm1.224018756631 \times 10^5kg \\ where, M_C - equivalent\ mass\ of\ Coulomb, \\ Polarity\ of\ the\ mass\ is\ same\ as\ that\ of\ electric\ charges. \end{matrix}\right\}$$

$$\text{Eq.} 8-3$$

▪ Reduced Equivalent Mass of Coulomb $\widetilde{M}_c$

Any charged body with electric charge quantities of $N_e \times e$ has its equivalent mass called as reduced equivalent mass of Coulomb. that is,

$$\left\{\begin{array}{c}\widetilde{M}_c = \pm \frac{N_e|e|}{\sqrt{4\pi|\epsilon_0|}} M_c \\ where, \widetilde{M}_c - reduced\ equivalent\ mass\ of\ Coulomb, \\ M_C - equivalent\ mass\ of\ Coulomb, \\ N_e - numbers\ of\ elementary\ charge\ in\ the\ charged\ body, \\ e - elementary\ charge, \epsilon_0 - vacuum\ permittivity, \\ polarity\ of\ this\ mass\ is\ same\ as\ that\ of\ elemenary\ charges. \end{array}\right\}$$

$$Eq.8-4$$

▪Equivalent Mass of Elementary Charge M_e

Based on equivalent mass of Coulomb, it is known that equivalent mass of the elementary charge would be $M_e = |e|M_C$

$= (1.60217733 \times 10^{-19})(\pm 1.2224018756631 \times 10^5 kg)$

$= \pm 1.958504573336 \times 10^{-14} kg$

▪Equivalent Mass of Magnetic Moment - Magnetic Flux $M_{\mu/\varphi}$

Multidimensional space-time structure of unit magnetic moment $\sqrt{|G|}m^5 s^{-3}$, unit magnetic flux $\sqrt{|G|}m^2 s^{-1}$ and an constant value $\frac{\sqrt{|G|}m^0 s^0}{STV\left(\sqrt{|G|}m^0 s^0\right)}$ can form an equivalent mass of magnetic moment -magnetic flux, that is,

$$M_{\frac{\mu}{\varphi}} = \left\{\frac{\sqrt{|G|}m^0 s^0}{STV\left(\sqrt{|G|}m^0 s^0\right)}\right\}\left\{\frac{\sqrt{|G|}m^5 s^{-3}}{\sqrt{|G|}m^2 s^{-1}}\right\} = \frac{|G|m^3 s^{-2}}{|G|}$$

$$= \frac{kg}{6.6745786383860966 \times 10^{-11}} = 1.498221916584 \times 10^{10} kg.$$

$$\left\{\begin{array}{c}M_{\mu/\varphi} = \frac{kg}{|G|} = 1.498221916584 \times 10^{10} kg \\ where, M_{\mu/\varphi} - Equivalent\ Mass\ of\ Mag.moment\ -\ mag.flux, \\ Direction\ of\ the\ mass\ is\ same\ as\ that\ of\ the\ magnetic\ moment\ . \end{array}\right\}$$

$$\mathrm{Eq}.8-5$$

9，Definition System of Phyxial Units

The MS System is a definiton system of physical units that is developed based on the SI and multi-dimensional space-time structures. This system of physical units has realizied unified theoretical definitions to all physical units by using only two basic quantities ---the unit of length and the unit of time. The MS System is divided into the semi-theoretical definition system and the fully theoretical definition system.

9.1 Semi-Theoretical MS System

This definition system adopts the measurement-based definitions to length unit and time unit in SI, while all derived quantities are theoretically defined.

▲Definitions of basic quantities

Measurement-based definition of time unit: The second is the duration of 9192631770 periods of radiation corresponding to the transition between the two hyperfine levels of the ground state of the cesium-133 atom, denoted by the physical unit symbol "s" [1] .

Measurement-based definition of length unit: The meter is the length of the path traveled by light in a vacuum during a time interval of 1/299792458 of a second, denoted by the physical unit symbol "m" [1].

▲Definition of Derived Quantitie4s

See Eq.9-1.

9.2 Fully-Theoretical MS System

This definition system fully adopts theorectical definitons to all physical units including length unit and time unit.

▲Definitions of basic quantities

Theoretical definition of unit length: The total one-dimensional space generated by $2.4720661623652209\ldots\times 10^{34}$ numbers of completable space-times is one meter, denoted by thelength unit symbol "m".

Theoretical definition of unit time: The total one-dimensional time generated by $7.416198487095662\ldots\times 10^{42}$ number of completable space-times is one second, denoted by the time unit symbol "s".

Note: Complete space-time, abbreviated CST, is the most basic unit composing the universe, which generate various constant physical quantities such as constant length and constant time,constant mass, constant energy,etc. To this regard, please refer to reference [2]

▲Definition of Derived Quantitie4s

$$\left\{\begin{array}{c} To\ define\ any\ physical\ reality\ \ possessing\ multidimensional\ space\ time\ strcture \\ \left\{\begin{array}{c} STC(DimA) = Bm^a s^{-b} \\ STV(DimA) = B \times STV(m^a) \times STV(s^{-b}) \\ A_G = \frac{1}{STV(DimA)} DimA = \frac{1}{STV(Bm^a s^{-b})} DimA \end{array}\right\} \\ \text{as one unit of physical quantity, signed } DimA. \\ \text{where, } STC - \text{space time configuration, } STV - \text{space time value,} \\ A_G - \text{constant physical quantity,} \\ a, b \text{ are integer and } a, b = 0, \pm 1, \pm 2, \pm 3, \pm 4, \pm 5 。 \\ B \text{ is cofficient and } B \geq |G| = 6.6745786383860968 \times 10^{-11}, \\ m - \text{one unit of length, } s\ - \text{one unit of time,} \\ STV(m) = 2.4720661623652209 \times 10^{34}, \\ STV(s) = 0.7416198487095662 \times 10^{43}. \end{array}\right\}$$

$$Eq. 9 - 1$$

Under MS System, expression of physical quantities are more abundant. Table-2 lists some physical quantities in the MS system.

Table-2 Some of Physical Quantities in MS System

	Name	$DimA$	$DimA$ relation	$STC(DimA)$	$STV(DimA)$	A_G
01	length	m	m	$m^1 s^0$	$2.472066162365 \times 10^{34}$	$L_G = 0.404519917477 \times 10^{-34} m$
02	time	s	s	$m^0 s^1$	$0.741619848709 \times 10^{43}$	$t_G = 1.348399724926 \times 10^{-43} s$
03	mass	kg	kg	$\|G\| m^3 s^{-2}$	1.8333333×10^7	$M_G = 0.\dot{5}\dot{4} \times 10^{-7} kg$
04	Current intensity	A	A	$\sqrt{\|G\|} m^3 s^{-3}$	$0.30258553503 \times 10^{-30}$	$I_G = 3.304850642904 \times 10^{30} A$
05	temperature	K	K	$\beta m^4 s^{-4}$	$2.81201271523 \times 10^{-33}$	$T_G = 0.355617168649 \times 10^{33} K$
06	mole	mol	mol	$am^2 s^{-1}$	$6.014759519136 \times 10^{23}$	$mol_G = 0.166257686083 \times 10^{-23} mol$
07	Luminious intensity	cd	cd	$(\frac{sr^{-1}}{683}) \|G\| m^5 s^{-5}$	$(\frac{sr^{-1}}{683})\ 0.274674 \times 10^{-52}$	$cd_G = (\frac{683}{sr^{-1}})\ 3.640679257 \times 10^{52} cd$
08	energy	J	$kgm^2 s^{-2}$	$\|G\| m^5 s^{-4}$	$2.\dot{0}\dot{3}\dot{7} \times 10^{-10}$	$J_G = 0.4\dot{9}\dot{0} \times 10^{10} J$
09	momentum	p	$kgms^{-1}$	$\|G\| m^4 s^{-3}$	$0.06\dot{1} \times 10^0$	$p_G = 16.\dot{3}\dot{6} kgms^{-1}$

10	Angular moment	L	kgm^2s^{-1}	$\|G\|m^5s^{-3}$	$0.151070709922 \times 10^{34}$	$h = 6.619416831457 \times 10^{-34}Js$
11	force	N	$kgms^{-2}$	$\|G\|m^4s^{-4}$	$0.82402205412 \times 10^{-44}$	$N_G = 1.213559762433 \times 10^{44}N$
12	power	W	Js^{-1}	$\|G\|m^5s^{-5}$	$0.27467401804 \times 10^{-52}$	$W_G = 3.640679257301 \times 10^{52}W$
13	Pressure	P_a	Nm^{-2}	$\|G\|m^2s^{-4}$	$1.34839972492\times 10^{--113}$	$P_{aG} = 0.741619848709 \times 10^{113}Nm^{-2}$
14	Surface tension	σ	Nm^{-1}	$\|G\|m^3s^{-4}$	$0.\dot{3} \times 10^{-78}$	$\sigma_G = 3.\dot{0} \times 10^{78}Nm^{-1}$
15	Mass density	ρ	kgm^{-3}	$\|G\|m^0s^{-2}$	$1.21355975243 \times 10^{-96}$	$\rho_G = 0.824022054121 \times 10^{96}kgm^{-3}$
16	Dynamic viscosity	μ	P_as	$\|G\|m^2s^{-3}$	$0.\dot{9} \times 10^{-70}$	$\mu_G = 1.\dot{0} \times 10^{70}P_as$
17	Energy density	ρ_e	Jm^{-3}	$\|G\|m^2s^{-4}$	$1.34839972492\times 10^{--113}$	$\rho_{eG} = 0.741619848709 \times 10^{113}Jm^{-3}$
18	frequency	f	s^{-1}	m^0s^{-1}	$1.348399724926 \times 10^{-43}$	$f_G = 0.741619848709 \times 10^{43}Hz$
19	Flow rate	Q	m^3s^{-1}	m^3s^{-1}	$2.\dot{0}3\dot{7} \times 10^{60}$	$Q_G = 0.4\dot{9}\dot{0} \times 10^{-60}m^3s^{-1}$
20	wavelength	λ	m	m^1s^0	$2.472066162365 \times 10^{34}$	$\lambda_G = 0.404519917477 \times 10^{-34}m$
21	Wave number	k	m^{-1}	$m^{-1}s^0$	$0.40451991747 \times 10^{-34}$	$k_G = 2.472066162365 \times 10^{34}m^{-1}$
22	Kinematic viscosity	v	m^2s^{-1}	m^2s^{-1}	$0.82402205412 \times 10^{26}$	$v_G = 1.213559752433 \times 10^{-26}m^2s^{-1}$
23	velocity	v	ms^{-1}	m^1s^{-1}	$0.\dot{3} \times 10^{-8}$	$v_G = c = 3.\dot{0} \times 10^8ms^{-1}$
24	acceleration	a	ms^{-2}	m^1s^{-2}	$0.449466574975 \times 10^{-51}$	$a_G = 2.224859546128 \times 10^{51}ms^{-2}$
25	area	S	m^2	m^2s^0	$6.\dot{1} \times 10^{68}$	$S_G = 0.1\dot{6}\dot{3} \times 10^{-68}m^2$
26	volume	V	m^3	m^3s^0	1.510707099223	$V_G = 0.661941683145 \times 10^{-103}m^3$
27	Magnetic induction intensity	T	$NA^{-1}m^{-1}$	$\sqrt{\|G\|}m^0s^{-1}$	$0.110161688096 \times 10^{-47}$	$B_G = 9.077566051105 \times 10^{47}T$

28	Magnetic flux	W_b	Vs	$\sqrt{\lvert G\rvert}m^2s^{-1}$	0.673210316147 $\times 10^{21}$	$\emptyset_G$ =1.485419899271 $\times 10^{-21}W_b$
29	Charge density	ρ_0	Cm^{-3}	$\sqrt{\lvert G\rvert}m^0s^{-2}$	1.485419899271 $\times 10^{-91}$	ρ_{0G} $= 0.673210316147$ $\times 10^{91}Cm^{-3}$
30	Electric Field strength	E	Vm^{-1}	$\sqrt{\lvert G\rvert}m^1s^{-2}$	0.367205626989 $\times 10^{-56}$	E_G $= 2.723269815331$ $\times 10^{56}Vm^{-1}$
31	voltage	V	WA^{-1}	$\sqrt{\lvert G\rvert}m^2s^{-2}$	0.90775660511 $\times 10^{-22}$	V_G $= 1.101616880968$ $\times 10^{22}V$
32	Charge quantity	C	As	$\sqrt{\lvert G\rvert}m^3s^{-2}$	0.22440343871 $\times 10^{13}$	C_G $= 4.456259697815$ $\times 10^{-13}C$
33	Current density	$\boldsymbol{J}$	Am^{-2}	$\sqrt{\lvert G\rvert}m^1s^{-3}$	0.49513996642 $\times 10^{-99}$	$\boldsymbol{J}_G$ $= 2.019630948441$ $\times 10^{99}Am^{-2}$
34	Magnetic Field strngth	H	Am^{-1}	$\sqrt{\lvert G\rvert}m^2s^{-3}$	0.12240187566 $\times 10^{-64}$	H_G $= 8.169809445994$ $\times 10^{64}Am^{-1}$
35	Magnetic moment	$\boldsymbol{m}$	JT^{-1}	$\sqrt{\lvert G\rvert}m^5s^{-3}$	0.18491338252 $\times 10^{39}$	$\boldsymbol{m}_G$ $= 5.407937415661$ $\times 10^{-39}JT^{-1}$
36	resistance	Ω	VA^{-1}	$m^{-1}s^1$	$3.\dot{0} \times 10^8$	$\Omega_G = 0.\dot{3} \times 10^{-8}\Omega$
37	conductance	S	AV^{-1}	m^1s^{-1}	$0.\dot{3} \times 10^{-8}$	$S_G = 3.\dot{0} \times 10^8 ms^{-1}$
38	inductance	H	VsA^{-1}	$m^{-1}s^2$	0.222485954612 $\times 10^{52}$	H_G $= 4.494665749754$ $\times 10^{-52}VsA^{-1}$
39	capacitance	F	CV^{-1}	m^1s^0	2.472066162365 $\times 10^{34}$	F_G $= 0.404519917477$ $\times 10^{-34}CV^{-1}$
40	conductivity	σ	Sm^{-1}	m^0s^{-1}	1.348399724926 $\times 10^{-43}$	σ_G $= 0.741619848709$ $\times 10^{43}Sm^{-1}$
41	permittivity	ϵ	Fm^{-1}	m^0s^0	1	$\varepsilon_G = 1$
42	permeability	μ	NA^{-2}	$m^{-2}s^2$	9×10^{16}	μ_G $= 0.\dot{1} \times 10^{-16}NA^{-2}$
43	entropy	S	JK^{-1}	$\beta^{-1}(\lvert G\rvert m^1s^0)$	0. 72429233017 $\times 10^{23}$	k_B $= 1.380442605662$ $\times 10^{-23}JK^{-1}$
44	Natural entropy	S_n	βJK^{-1}	$\lvert G\rvert m^1s^0$	$16.4\dot{9} \times 10^{23}$	$0.0\dot{6} \times 10^{-23}S_n$
45	Molar energy	E_{nm}	$Jmol^{-1}$	$a^{-1}(\lvert G\rvert m^3s^{-3})$	0.338673064244 $\times 10^{-33}$	E_{nmG} $= 2.95270012757$ $\times 10^{33}Jmol^{-1}$
46	Natural molar energy	E_{Nm}	$aJmol^{-1}$	$\lvert G\rvert m^3s^{-3}$	2.47206616236 $\times 10^{-36}$	E_{NmG} $= 0.404519917477$ $\times 10^{34}E_{Nm}$

47	Molar entropy	S_m	$JK^{-1}mol^{-1}$	$\frac{a^{-1}}{\beta}(\lvert G\rvert m^{-1}s^{1})$	$0.120419166863\times 10^{0}$	$R = 8.304325848169 JK$
48	Natural molar entropy	S_{Nm}	$a\beta JK^{-1}*mol^{-1}$	$\lvert G\rvert m^{-1}s^{1}$	$0.200237359151\times 10^{-1}$	$S_{NmG} = 4.994073055283\times 10^{1}S_{Nm}$
49	Heat conductivity	k	$Wm^{-1}K^{-1}$	$\beta^{-1}(\lvert G\rvert m^{0}s^{-1})$	$0.39506854373\times 10^{-54}$	$k_G = 2.5312063333\times 10^{54}Wm^{-1}K^{-1}$
50	Natural heat conductivity	k_N	$\beta Wm^{-1}K^{-1}$	$\lvert G\rvert m^{0}s^{-1}$	9×10^{-54}	$k_{NG} = 0.\dot{1}\times 10^{54}k_N$
51	Molar conducttivity	Λ_m	$kg^{-1}mol^{-1}s^{3}A^{-2}$	$a^{-1}m^{1}s^{0}$	$0.338673064244\times 10^{36}$	$\Lambda_{mG} = 2.95270012757\times 10^{-36}\Lambda_m$
52	Specific entrophy	S_s	$JK^{-1}kg^{-1}$	$\beta^{-1}m^{-2}s^{2}$	$0.39506854373\times 10^{16}$	$S_{sG} = 2.531206333\times 10^{-16}JK^{-1}kg^{-1}$
53	Specific volume	V	m^3kg^{-1}	$\lvert G\rvert^{-1}m^{0}s^{2}$	$0.82402205412\times 10^{96}$	$V_G = 2.531206333\times 10^{-96}m^3kg^{-1}$
54	Specific energy	Jkg^{-}	Jkg^{-1}	m^2s^2	$0.\dot{1}\times 10^{-16}$	$0.9\times 10^{16}m^2s^2$
55	Radiant flux density	E	Wm^{-2}	$\lvert G\rvert m^{3}s^{-5}$	$0.44946657497\times 10^{-121}$	$E_G = 2.224859546128\times 10^{121}Wm^{-2}$
56	emissivity	$M_{e\lambda}$	$Wm^{-2}\lambda^{-1}$	$\lvert G\rvert m^{2}s^{-5}$	$0.\dot{1}\dot{8}\times 10^{-155}$	$M_{e\lambda_G} = 5.5\dot{0}\times 10^{155} Wm^{-2}\lambda^{-1}$
57	emissivity	M_{ef}	$Wm^{-2}Hz^{-1}$	$\lvert G\rvert m^{3}s^{-4}$	$0.\dot{3}\times 10^{-78}$	$M_{ef_G} = 3.\dot{0}\times 10^{78} Wm^{-2}Hz^{-1}$
58	Unit of gravitational constant	C_g	$m^3kg^{-1}s^{-2}$	$\lvert G\rvert^{-1}m^{0}s^{0}$	$0.149822191658\times 10^{11}$	$G = 6.67457863838\times 10^{-11}m^3kg^{-1}s^{-2}$

Note: $\beta = \frac{a^{-1}}{|N_A|\times 10^{-2}} = 22.780856999999$, $a = 1/137$, $|N_A| = 6.014759519136\times 10^{23}$,$|G| = 6.6745786383860966\times 10^{-11}$,$\sqrt{|G|} = 0.8169809445933299\times 10^{-5}$.

9.3 Experimental Basis of MS System

The MS System is established based on the definitions of constant physical quantities, elementary physical constants, and elationships of SI physical units. Since the elementary physical constants and the relationships of SI physical units form experimental basis of the SI physical unit definition system, thus the MS system shares the same experimental basis. This endows the MS system with a solid physical experimental foundation.

10, Periodic Table of Physical Elements

10.1, Brief to the Table

The periodic table of physical elements is distinct from the chemical periodic table, and physical elements are not chemical elements. Chemical elements are substances themselves, while physical elements are physical components comprising matter. Based on the multidimensional spacetime structure of physical quantities, using the dimensions of space and time as periodic variables, a statistical compilation of all known and unknown physical elements forms the table, which includes more than 460 physical elements. The table is consists of thirteen sub-tables among which twelve are regular coefficient periodic tables, and the thirteenth is an irregular coefficient periodic table divided into two part A and part B.

In the table, all physical elements follow an unified description format

$$\left\{\begin{matrix} serial\ No.of\ physical\ element \\ STC(DimA)=Bm^a s^{-b} \\ STV(DimA) \\ A_G=\frac{1}{STV(DimA)}DimA \\ Name\ of\ physical\ element \\ Symbol\ of\ physcial\ unit\ DimA \end{matrix}\right\} \quad \text{Such as} \quad \left\{\begin{matrix} No.16 \\ |G|m^3s^{-2} \\ 1.8\dot{3}\times 10^7 \\ 0.\dot{5}\dot{4}\times 10^{-7}kg \\ mass \\ kg \end{matrix}\right\}$$

There are a large number of unknown elements appearing in the periodic table, the reasons are possibly that firstly, it is due to the author's statistical omission to some known physical elements. Secondly some unknown elements belong to physical elements that have not yet been discovered by physics, and this possibility is relatively high. Thirdly most unknown elements are physical elements that have not yet been generated in the universe and will be successively generated.

The periodic table of physical elements visually demonstrates physical relationships of all elements, such as adjacent relationship between all known physical elements as well as known and unknown ones. These adjacent relationships enable us to predict new physical elements and facilitate discovery of physical connections between known elements. Since matter is a materialized existence commonly formed by various of physical elements, so the periodic table of physical elements reveals more and richer physical connotations of matter.B

10.2 Contants of the Table

The First Periodic Table of Physical Elements PTPE-I $No.1 \sim No.36$

$$\lvert G \rvert m^a s^{-b} \quad a = 0,1,2,3,4,5; \; b = 0,1,2,3,4,5 \; ; \; B = \lvert G \rvert$$

	m^0	m^1	m^2	m^3	m^4	m^5
s^0	$No.1$ $\lvert G \rvert m^0 s^0$ 6.6745×10^{-1} Value $\lvert G \rvert$	$No.2$ $\lvert G \rvert m^1 s^0$ 1.6499×10^{24} $0.6060 \times 10^{-24} S_{Nn}$ Natrual entropy S_{Nn}	$No.3$ $\lvert G \rvert m^2 s^0$ 4.0789×10^{58} 0.2452×10^{-5} DimA Unknown DimA	$No.4$ $\lvert G \rvert m^3 s^0$ 1.0083×10^{93} $0.9917\times 10^{-93} U_n$ Unit nothingness U_n	$No.5$ $\lvert G \rvert m^4 s^0$ 2.4927×10^{127} 0.4012×10^{-127}DimA Unknown DimA	$No.6$ $\lvert G \rvert m^5 s^0$ 6.1620×10^{161} 0.1623×10^{-161}DimA Unknown DimA
s^{-1}	$No.7$ $\lvert G \rvert m^0 s^{-1}$ 8.9999×10^{-54} $0.1111\times 10^{54} k_N$ Natrual thermal conductivity k_N	$No.8$ $\lvert G \rvert m^1 s^{-1}$ 2.2249×10^{-19} 0.4495×10^{19}DimA Unknown DimA	$No.9$ $\lvert G \rvert m^2 s^{-1}$ 5.5000×10^{15} 0.1818×10^{-15}DimA Unknown DimA	$No.10$ $\lvert G \rvert m^3 s^{-1}$ 1.3596×10^{50} 0.7355×10^{-50}DimA Unknown DimA	$No.11$ $\lvert G \rvert m^4 s^{-1}$ 3.3611×10^{84} 0.2975×10^{-84}DimA Unknown DimA	$No.12$ $\lvert G \rvert m^5 s^{-1}$ 8.3089×10^{118} 0.1204×10^{-118}DimA Unknown DimA
s^{-2}	$No.13$ $\lvert G \rvert m^0 s^{-2}$ 0.1214×10^{-95} $8.2402\times 10^{95} kgm^{-3}$ Mass density ρ	$No.14$ $\lvert G \rvert m^1 s^{-2}$ 3.0000×10^{-62} 0.3333×10^{62}DimA Unknown DimA	$No.15$ $\lvert G \rvert m^2 s^{-2}$ 7.4162×10^{-28} 0.1348×10^{28}DimA Unknown DimA	$No.16$ $\lvert G \rvert m^3 s^{-2}$ 1.8333×10^{7} $0.5454\times 10^{-7} kg$ Mass kg	$No.17$ $\lvert G \rvert m^4 s^{-2}$ 4.5321×10^{41} 0.2206×10^{-41}DimA Unknown DimA	$No.18$ $\lvert G \rvert m^5 s^{-2}$ 1.1203×10^{76} 0.8926×10^{-76}DimA Unknown DimA
s^{-3}	$No.19$ $\lvert G \rvert m^0 s^{-3}$ 1.6363×10^{-139} 0.6111×10^{139}DimA Unknown DimA	$No.20$ $\lvert G \rvert m^1 s^{-3}$ 4.0452×10^{-10} 0.2472×10^{105}DimA Unknown DimA	$No.21$ $\lvert G \rvert m^2 s^{-3}$ 0.9999×10^{-70} $1.0000\times 10^{70} kgm^{-1}s^{-1}$ Dynamic viscosity μ	$No.22$ $\lvert G \rvert m^3 s^{-3}$ 2.4721×10^{-36} $0.4045\times 10^{36} E_{Nm}$ Natrual mol energy E_{Nm}	$No.23$ $\lvert G \rvert m^4 s^{-3}$ 0.0611×10^{0} $16.3666\times 10^{0} kgms^{-1}$ Momentum p	$No.24$ $\lvert G \rvert m^5 s^{-3}$ 0.1510×10^{34} $6.6194\times 10^{-34} kgm^2s^{-1}$ Angualr moment L
s^{-4}	$No.25$ $\lvert G \rvert m^0 s^{-4}$ 2.2065×10^{-182} 0.4532×10^{182}DimA Unknown DimA	$No.26$ $\lvert G \rvert m^1 s^{-4}$ 5.4545×10^{-148} 0.1833×10^{148}DimA Unknown DimA	$No.27$ $\lvert G \rvert m^2 s^{-4}$ 1.3484×10^{-113} $0.7416\times 10^{113} Nm^{-2}$ Pressure P_a	$No.28$ $\lvert G \rvert m^3 s^{-4}$ 0.3333×10^{-78} $3.0000 \times 10^{78} Nm^{-1}$ Surface tension σ	$No.29$ $\lvert G \rvert m^4 s^{-4}$ 0.8240×10^{-44} $1.2135 \times 10^{44} N$ Force F	$No.30$ $\lvert G \rvert m^5 s^{-4}$ 2.0370×10^{-10} $0.4909\times 10^{10} J$ Energy E
s^{-5}	$No.31$ $\lvert G \rvert m^0 s^{-5}$ 2.9752×10^{-225} 0.3361×10^{225}DimA Unknown DimA	$No.32$ $\lvert G \rvert m^1 s^{-5}$ 7.3549×10^{-19} 0.1359×10^{191}DimA Unknown DimA	$No.33$ $\lvert G \rvert m^2 s^{-5}$ 0.18182×10^{-155} $0.5500\times 10^{155} M_{e\lambda}$ Emissvity $M_{e\lambda}$	$No.34$ $\lvert G \rvert m^3 s^{-5}$ 0.4494×10^{-121} $2.2248\times 10^{121} Wm^{-2}$ Radiant flux density E	$No.35$ $\lvert G \rvert m^4 s^{-5}$ 1.1111×10^{-87} $0.9000\times 10^{87} \Phi_{e\lambda}$ Specific power $\Phi_{e\lambda}$	$No.36$ $\lvert G \rvert m^5 s^{-5}$ 0.2746×10^{-52} $3.6406\times 10^{52} W$ Power P

The Second Periodic Table of Physical Elements PTPE-Ⅱ $No.37 \sim No.72$

$|G|m^a s^{-b}$ $a = 0,-1,-2,-3,-4,-5$; $b = 0,1,2,3,4,5$; $B = |G|$

	m^0	m^{-1}	m^{-2}	m^{-3}	m^{-4}	m^{-5}
s^0	$No.37$ $\|G\|m^0s^0$ 6.6745×10^{-1} Value $\|G\|$	$No.38$ $\|G\|m^{-1}s^0$ 2.7000×10^{-45} 0.3704×10^{45}DimA Unknown DimA	$No.39$ $\|G\|m^{-2}s^0$ 1.0922×10^{-79} 0.9155×10^{79}DimA Unknown DimA	$No.40$ $\|G\|m^{-3}s^0$ 0.4418×10^{-113} 2.2634×10^{113}DimA Unknown DimA	$No.41$ $\|G\|m^{-4}s^0$ 0.1787×10^{-14} 5.5960×10^{147}DimA Unknown DimA	$No.42$ $\|G\|m^{-5}s^0$ 0.7230×10^{-182} 1.3831×10^{182}DimA Unknown DimA
s^{-1}	$No.43$ $\|G\|m^0s^{-1}$ 8.9999×10^{-54} $0.1111\times 10^{54}k_N$ Natrual thermal conductivity k_N	$No.44$ $\|G\|m^{-1}s^{-1}$ 3.6405×10^{-88} 0.2747×10^{88}DimA Unknown DimA	$No.45$ $\|G\|m^{-2}s^{-1}$ 1.4727×10^{-122} 0.6790×10^{122}DimA Unknown DimA	$No.46$ $\|G\|m^{-3}s^{-1}$ 0.5957×10^{-156} 1.6786×10^{156}DimA Unknown DimA	$No.47$ $\|G\|m^{-4}s^{-1}$ 0.2410×10^{-190} 4.1493×10^{190}DimA Unknown DimA	$No.48$ $\|G\|m^{-5}s^{-1}$ 0.9748×10^{-22} 1.0259×10^{225}DimA Unknown DimA
s^{-2}	$No.49$ $\|G\|m^0s^{-2}$ 0.1214×10^{-95} $8.2402\times 10^{95}kgm^{-3}$ Mass density ρ	$No.50$ $\|G\|m^{-1}s^{-2}$ 0.4909×10^{-13} 2.0371×10^{130}DimA Unknown DimA	$No.51$ $\|G\|m^{-2}s^{-2}$ $0.1986\times$ 10^{-164} 5.0352×10^{164}DimA Unknown DimA	$No.52$ $\|G\|m^{-3}s^{-2}$ 0.8033×10^{-199} 1.2448×10^{199}DimA Unknown DimA	$No.53$ $\|G\|m^{-4}s^{-2}$ 0.3250×10^{-23} 3.0769×10^{233}DimA Unknown DimA	$No.54$ $\|G\|m^{-5}s^{-2}$ 0.1315×10^{-267} 7.6046×10^{267}DimA Unknown DimA
s^{-3}	$No.55$ $\|G\|m^0s^{-3}$ 1.6363×10^{-139} 0.6111×10^{139}DimA Unknown DimA	$No.56$ $\|G\|m^{-1}s^{-3}$ 0.6619×10^{-173} 1.5108×10^{173}DimA Unknown DimA	$No.57$ $\|G\|m^{-2}s^{-3}$ 0.2678×10^{-207} 3.7341×10^{207}DimA Unknown DimA	$No.58$ $\|G\|m^{-3}s^{-3}$ 0.1083×10^{-241} 9.2336×10^{241}DimA Unknown DimA	$No.59$ $\|G\|m^{-4}s^{-3}$ 0.4381×10^{-276} 2.2826×10^{276}DimA Unknown DimA	$No.60$ $\|G\|m^{-5}s^{-3}$ 0.1772×10^{-310} 5.6433×10^{310}DimA Unknown DimA
s^{-4}	$No.61$ $\|G\|m^0s^{-4}$ 2.2065×10^{-182} 0.4532×10^{182}DimA Unknown DimA	$No.62$ $\|G\|m^{-1}s^{-4}$ 0.8926×10^{-216} 1.1203×10^{216}DimA Unknown DimA	$No.63$ $\|G\|m^{-2}s^{-4}$ 0.3611×10^{-250} 2.7693×10^{250}DimA Unknown DimA	$No.64$ $\|G\|m^{-3}s^{-4}$ 0.1461×10^{-284} 6.8446×10^{284}DimA Unknown DimA	$No.65$ $\|G\|m^{-4}s^{-4}$ 0.5908×10^{-319} 1.6926×10^{319}DimA Unknown DimA	$No.66$ $\|G\|m^{-5}s^{-4}$ 0.2390×10^{-353} 4.1841×10^{353}DimA Unknown DimA
s^{-5}	$No.67$ $\|G\|m^0s^{-5}$ 2.9752×10^{-225} 0.3361×10^{225}DimA Unknown DimA	$No.68$ $\|G\|m^{-1}s^{-5}$ 1.2035×10^{-259} 0.8309×10^{259}DimA Unknown DimA	$No.69$ $\|G\|m^{-2}s^{-5}$ 0.4869×10^{-293} 2.0538×10^{293}DimA Unknown DimA	$No.70$ $\|G\|m^{-3}s^{-5}$ 0.1969×10^{-327} 5.0787×10^{327}DimA Unknown DimA	$No.71$ $\|G\|m^{-4}s^{-5}$ 0.7967×10^{-362} 1.2552×10^{362}DimA Unknown DimA	$No.72$ $\|G\|m^{-5}s^{-5}$ 0.3223×10^{-396} 3.1030×10^{396}DimA Unknown DimA

The Third Periodic Table of Physical Elements PTPE-Ⅲ $No.73 \sim No.108$

$|G|m^a s^{-b}$ $a = 0,1,2,3,4,5$; $b = 0,-1,-2,-3,-4,-5$; $B = |G|$

	m^0	m^1	m^2	m^3	m^4	m^5
s^0	$No.73$ $\|G\|m^0s^0$ 6.6745×10^{-11} Value $\|G\|$	$No.74$ $\|G\|m^1s^0$ 1.6499×10^{24} $0.6060\times 10^{-24} S_{Nn}$ Natrual entropy S_{Nn}	$No.75$ $\|G\|m^2s^0$ 4.0789×10^{58} 0.2452×10^{-58}DimA Unkown DimA	$No.76$ $\|G\|m^3s^0$ 1.0783×10^{93} 0.9918×10^{-9} U_n Unit nothingness U_n	$No.77$ $\|G\|m^4s^0$ 2.4927×10^{127} 0.4012×10^{-12} DimA Unkown DimA	$No.78$ $\|G\|m^5s^0$ 6.1620×10^{161} 0.1623×10^{-161}DimA Unkown DimA
s^1	$No.79$ $\|G\|m^0s^1$ 4.9500×10^{32} 0.2020×10^{-32}DimA Unkown DimA	$No.80$ $\|G\|m^1s^1$ 1.2236×10^{67} 0.8172×10^{-67}DimA Unkown DimA	$No.81$ $\|G\|m^2s^1$ 3.0247×10^{101} 0.3306×10^{-101}DimA Unkown DimA	$No.82$ $\|G\|m^3s^1$ 7.4770×10^{135} 0.1337×10^{-135}DimA Unkown DimA	$No.83$ $\|G\|m^4s^1$ 1.8483×10^{170} 0.5410×10^{-170}DimA Unkown DimA	$No.84$ $\|G\|m^5s^1$ 4.5689×10^{204} 0.2188×10^{-204}DimA Unkown DimA
s^2	$No.85$ $\|G\|m^0s^2$ 3.6710×10^{75} 0.2724×10^{-75}DimA Unkown DimA	$No.86$ $\|G\|m^1s^2$ 9.0747×10^{109} 0.1101×10^{-109}DimA Unkown DimA	$No.87$ $\|G\|m^2s^2$ 2.2432×10^{144} 0.4457×10^{-144}DimA Unkown DimA	$No.88$ $\|G\|m^3s^2$ 5.5451×10^{178} 0.1803×10^{-178}DimA Unkown DimA	$No.89$ $\|G\|m^4s^2$ 1.3707×10^{213} 0.7295×10^{-213}DimA Unkown DimA	$No.90$ $\|G\|m^5s^2$ 3.3883×10^{247} 0.2951×10^{-247}DimA Unkown DimA
s^3	$No.91$ $\|G\|m^0s^3$ 2.7225×10^{118} 0.3673×10^{-118}DimA Unkown DimA	$No.92$ $\|G\|m^1s^3$. 6.7300×10^{152} 0.1485×10^{-152}DimA Unkown DimA	$No.93$ $\|G\|m^2s^3$ 1.6636×10^{186} 0.6011×10^{-18} DimA Unkown DimA	$No.94$ $\|G\|m^3s^3$ 4.1124×10^{220} 0.2431×10^{-220}DimA Unkown DimA	$No.95$ $\|G\|m^4s^3$ 1.0165×10^{255} 0.9836×10^{-255}DimA Unkown DimA	$No.96$ $\|G\|m^5s^3$ 2.5127×10^{289} 0.3979×10^{-289}DimA Unkown DimA
s^4	$No.97$ $\|G\|m^0s^4$ 2.0191×10^{161} 0.4953×10^{-161}DimA Unkown DimA	$No.98$ $\|G\|m^1s^4$ 4.9912×10^{195} 0.2203×10^{-195}DimA Unkown DimA	$No.99$ $\|G\|m^2s^4$ 1.2338×10^{230} 0.8171×10^{-230}DimA Unkown DimA	$No.100$ $\|G\|m^3s^4$ 3.0499×10^{264} 0.3278×10^{-26} DimA Unkown DimA	$No.101$ $\|G\|m^4s^4$ 7.5393×10^{298} 0.1326×10^{-298}DimA Unkown DimA	$No.102$ $\|G\|m^5s^4$ 1.8637×1^{333} 0.5365×10^{-333}DimA Unkown DimA
s^5	$No.103$ $\|G\|m^0s^5$ 1.4974×10^{204} 0.6678×10^{-204}DimA Unkown DimA	$No.104$ $\|G\|m^1s^5$ 3.7015×10^{238} 0.2701×10^{-238}DimA Unkown DimA	$No.105$ $\|G\|m^2s^5$ 9.1501×10^{272} 0.1092×10^{-272}DimA Unkown DimA	$No.106$ $\|G\|m^3s^5$ 2.2619×10^{307} 0.4421×10^{-307}DimA Unkown DimA	$No.107$ $\|G\|m^4s^5$ 5.5914×10^{341} 0.1788×10^{-34} DimA Unkown DimA	$No.108$ $\|G\|m^5s^5$ 1.3822×10^{375} 0.7234×10^{-37} DimA Unkown DimA

The Fourth PeriodicTable of Physical Elements PTPE-Ⅳ $No.109 \sim No.144$

$|G|m^a s^{-b}$ $a = 0,-1,-2,-3,-4,-5$; $b = 0,-1,-2,-3,-4,-5$; $B = |G|$

	m^0	m^{-1}	m^{-2}	m^{-3}	m^{-4}	m^{-5}
s^0	$No.109$ $\|G\|m^0s^0$ 6.6745×10^{-11} Value $\|G\|$	$No.110$ $\|G\|m^{-1}s^0$ 2.7000×10^{-45} 0.3703×10^{45}DimA Unkown DimA	$No.111$ $\|G\|m^{-2}s^0$ 1.0922×10^{-79} 0.9155×10^{79}DimA Unkown DimA	$No.112$ $\|G\|m^{-3}s^0$ 0.4418×10^{-113} 2.2635×10^{113}DimA Unkown DimA	$No.113$ $\|G\|m^{-4}s^0$ 0.1787×10^{-14} 5.5960×10^{147}DimA Unkown DimA	$No.114$ $\|G\|m^{-5}s^0$ 0.7228×10^{-182} 1.3835×10^{182} DimA Unkown DimA
s^1	$No.115$ $\|G\|m^0s^1$ 4.9500×10^{32} 0.2020×10^{-32}DimA Unkown DimA	$No.116$ $\|G\|m^{-1}s^1$ 2.0022×10^{-2} $0.4994\times 10^2 S_{Nm}$ Natrual mol entropy S_{Nm}	$No.117$ $\|G\|m^{-2}s^1$ 0.8100×10^{-36} $1..2346\times 10^{36}$DimA Unkown DimA	$No.118$ $\|G\|m^{-3}s^1$ 0.3277×10^{-70} 3.0516×10^{70}DimA Unkown DimA	$No.119$ $\|G\|m^{-4}s^1$ 0.1325×10^{-104} 7.5472×10^{104}DimA Unkown DimA	$No.120$ $\|G\|m^{-5}s^1$ 0.5359×10^{-139} 1.8650×10^{139}DimA Unkown DimA
s^2	$No.121$ $\|G\|m^0s^2$ 3.6710×10^{75} 0.2724×10^{-75} DimA Unkown DimA	$No.122$ $\|G\|m^{-1}s^2$ 1.4850×10^{41} 0.6734×10^{-41}DimA Unkown DimA	$No.123$ $\|G\|m^{-2}s^2$ 0.60077×10^{7} 1.6647×10^{-7}DimA Unkown DimA	$No.124$ $\|G\|m^{-3}s^2$ 0.2430×10^{-27} 4.1152×10^{27}DimA Unkown DimA	$No.125$ $\|G\|m^{-4}s^2$ 0.9830×10^{-62} 1.0173×10^{62}DimA Unkown DimA	$No.126$ $\|G\|m^{-5}s^2$ 0.3976×10^{-96} 2.5151×10^{96}imA Unkown DimA
s^3	$No.127$ $\|G\|m^0s^3$ 2.7225×10^{118} 0.3673×10^{-118}DimA Unkown DimA	$No.128$ $\|G\|m^{-1}s^3$ $1.1013\ \times 10^{84}$ 0.9080×10^{-84}DimA Unkown DimA	$No.129$ $\|G\|m^{-2}s^3$ 0.4455×10^{50} 2.2447×10^{-50}DimA Unkown DimA	$No.130$ $\|G\|m^{-3}s^3$ 0.1802×10^{16} 5.5494×10^{-16}DimA Unkown DimA	$No.131$ $\|G\|m^{-4}s^3$ 0.7290×10^{-19} 1.3717×10^{19}DimA Unkown DimA	$No.132$ $\|G\|m^{-5}s^3$ 0.2949×10^{-53} 3.3910×10^{53}DimA Unkown DimA
s^4	$No.133$ $\|G\|m^0s^4$ 2.0191×10^{161} 0.4953×10^{-161}DimA Unkown DimA	$No.134$ $\|G\|m^{-1}s^4$ 0.8167×10^{127} 1.2244×10^{-127}DimA Unkown DimA	$No.135$ $\|G\|m^{-2}s^4$ 0.3304×10^{93} 3.0266×10^{-93} DimA Unkown DimA	$No.136$ $\|G\|m^{-3}s^4$ 0.1336×10^{59} 7.4850×10^{-59}DimA Unkown DimA	$No.137$ $\|G\|m^{-4}s^4$ 0.5404×10^{26} 1.8498×10^{-26}DimA Unkown DimA	$No.138$ $\|G\|m^{-5}s^4$ 0.2186×10^{-8} 4.5725×10^{8}DimA Unkown DimA
s^5	$No.139$ $\|G\|m^0s^5$ 1.4974×10^{204} 0.6678×10^{-204}DimA Unkown DimA	$No.140$ $\|G\|m^{-1}s^5$ 0.6057×10^{170} 1.6510×10^{-170}DimA Unkown DimA	$No.141$ $\|G\|m^{-2}s^5$ 0.2450×10^{136} 4.0816×10^{-136}DimA Unkown DimA	$No.142$ $\|G\|m^{-3}s^5$ 0.9910×10^{101} 1.0089×10^{-101}DimA Unkown DimA	$No.143$ $\|G\|m^{-4}s^5$ 0.4008×10^{67} 2.4938×10^{-67}DimA Unkown DimA	$No.144$ $\|G\|m^{-5}s^5$ 0.1621×10^{33} 6.1652×10^{-33}DimA Unkown DimA

The Fifth Periodic Table of Physical Elements PTPE-V $No.145 \sim No.180$

$\sqrt{|G|}m^a s^{-b}$ $a = 0,1,2,3,4,5$; $b = 0,1,2,3,4,5$; $B = \sqrt{|G|}$

	m^0	m^1	m^2	m^3	m^4	m^5
s^0	$No.145$ $\sqrt{\lvert G\rvert}m^0s^0$ 0.8169×10^{-5} value $\sqrt{\lvert G\rvert}$	$No.146$ $\sqrt{\lvert G\rvert}m^1s^0$ 2.0196×10^{29} 0.4951×10^{-29}DimA Unknown DimA	$No.147$ $\sqrt{\lvert G\rvert}m^2s^0$ 4.9924×10^{63} 0.2003×10^{-63}DimA Unknown DimA	$No.148$ $\sqrt{\lvert G\rvert}m^3s^0$ 1.2341×10^{98} 0.8103×10^{-98}DimA Unknown DimA	$No.149$ $\sqrt{\lvert G\rvert}m^4s^0$ 3.0506×10^{132} 0.3278×10^{-132}DimA Unknown DimA	$No.150$ $\sqrt{\lvert G\rvert}m^5s^0$ 7.5410×10^{166} 0.1326×10^{-166}DimA Unknown DimA
s^{-1}	$No.151$ $\sqrt{\lvert G\rvert}m^0s^{-1}$ 0.1101×10^{-47} $9.0775\times 10^{47}T$ Mag. Flux density B	$No.152$ $\sqrt{\lvert G\rvert}m^1s^{-1}$ 2.7233×10^{-1} 0.3672×10^{14}DimA Unknown DimA	$No.153$ $\sqrt{\lvert G\rvert}m^2s^{-1}$ 0.6732×10^{21} $1.4854\times 10^{-21}W_b$ Mag. flux $\boldsymbol{\varphi}$	$No.154$ $\sqrt{\lvert G\rvert}m^3s^{-1}$ 1.6642×10^{55} 0.6009×10^{-55}DimA Unknown DimA	$No.155$ $\sqrt{\lvert G\rvert}m^4s^{-1}$ 4.1141×10^{89} 0.2431×10^{-89} DimA Unknown DimA	$No.156$ $\sqrt{\lvert G\rvert}m^5s^{-1}$ 1.0170×10^{124} 0.9833×10^{-124}DimA Unknown DimA
s^{-2}	$No.157$ $\sqrt{\lvert G\rvert}m^0s^{-2}$ 1.4854×10^{-91} $0.6732\times 10^{91}Cm^{-3}$ Charge denstiy ρ_0	$No.158$ $\sqrt{\lvert G\rvert}m^1s^{-2}$ 0.3672×10^{-56} $2.7233\times 10^{56}Vm^{-1}$ Elec. Field strength E	$No.159$ $\sqrt{\lvert G\rvert}m^2s^{-2}$ 0.9077×10^{-22} $1.1016\times 10^{22}V$ Voltage V	$No.160$ $\sqrt{\lvert G\rvert}m^3s^{-2}$ 0.2244×10^{13} $4.4562\times 10^{-13}C$ Charge Q	$No.161$ $\sqrt{\lvert G\rvert}m^4s^{-2}$ 0.5547×10^{47} 1.8028×10^{-47}DimA Unknown DimA	$No.162$ $\sqrt{\lvert G\rvert}m^5s^{-2}$ 1.3714×10^{81} 0.7292×10^{-81}DimA Unknown DimA
s^{-3}	$No.163$ $\sqrt{\lvert G\rvert}m^0s^{-3}$ 2.0029×10^{-13} 0.4993×10^{134}DimA Unknown DimA	$No.164$ $\sqrt{\lvert G\rvert}m^1s^{-3}$ 0.4951×10^{-99} $2.0196\times 10^{99}Am^{-2}$ Current density $\boldsymbol{J}$	$No.165$ $\sqrt{\lvert G\rvert}m^2s^{-3}$ 0.1224×10^{-64} $8.1698\times 10^{64}Am^{-1}$ Mag. Field strength H	$No.166$ $\sqrt{\lvert G\rvert}m^3s^{-3}$ 0.3025×10^{-30} $3.3048\times 10^{30}A$ Current intensity A	$No.167$ $\sqrt{\lvert G\rvert}m^4s^{-3}$ 7.4801×10^{3} 0.1337×10^{-3}DimA Unknown DimA	$No.168$ $\sqrt{\lvert G\rvert}m^5s^{-3}$ 0.1849×10^{39} $5.4079\times 10^{-3}\ JT^{-1}$ Mag.moment $\boldsymbol{m}$
s^{-4}	$No.169$ $\sqrt{\lvert G\rvert}m^0s^{-4}$ 2.7008×10^{-177} 0.3703×10^{177}DimA Unknown DimA	$No.170$ $\sqrt{\lvert G\rvert}m^1s^{-4}$ 6.6765×10^{-143} 0.1498×10^{143}imA Unknown DimA	$No.171$ $\sqrt{\lvert G\rvert}m^2s^{-4}$ 1.6505×10^{-108} 0.6059×10^{108}DimA Unknown DimA	$No.172$ $\sqrt{\lvert G\rvert}m^3s^{-4}$ 4.0801×10^{-74} 0.2451×10^{74}DimA Unknown DimA	$No.173$ $\sqrt{\lvert G\rvert}m^4s^{-4}$ 1.0086×10^{-39} 0.9915×10^{39}DimA Unknown DimA	$No.174$ $\sqrt{\lvert G\rvert}m^5s^{-4}$ 2.4934×10^{-5} 0.4011×10^{5}DimA Unknown DimA
s^{-5}	$No.175$ $\sqrt{\lvert G\rvert}m^0s^{-5}$ 3.6417×10^{-220} 0.2746×10^{220}DimA Unknown DimA	$No.176$ $\sqrt{\lvert G\rvert}m^1s^{-5}$ 9.0025×10^{-186} 0.1111×10^{186}DimA Unknown DimA	$No.177$ $\sqrt{\lvert G\rvert}m^2s^{-5}$ 2.2255×10^{-151} 0.4493×10^{151}DimA Unknown DimA	$No.178$ $\sqrt{\lvert G\rvert}m^3s^{-5}$ 5.5016×10^{-117} 0.1818×10^{117}DimA Unknown DimA	$No.179$ $\sqrt{\lvert G\rvert}m^4s^{-5}$ 1.3600×10^{-82} $0.7353\times 10n^{82}$DimA Unknown DimA	$No.180$ $\sqrt{\lvert G\rvert}m^5s^{-5}$ 3.3621×10^{-48} 0.2974×10^{48}DimA Unknown DimA

The Sixth Periodic Table of Physical Elements PTPE-Ⅵ $No.181 \sim No.216$

$\sqrt{|G|}m^a s^{-b}$ $a = 0,-1,-2,-3,-4,-5$; $b = 0,1,2,3,4,5$; $B = \sqrt{|G|}$

	m^0	m^{-1}	m^{-2}	m^{-3}	m^{-4}	m^{-5}
s^0	$No.181$ $\sqrt{\lvert G\rvert}m^0s^0$ 0.8169× 10^{-5} Value $\sqrt{\lvert G\rvert}$	$No.182$ $\sqrt{\lvert G\rvert}m^{-1}s^0$ 0.3305× 10^{-39} 3.0257× 10^{39}DimA Unkown DimA	$No.183$ $\sqrt{\lvert G\rvert}m^{-2}s^0$ 0.1337× 10^{-73} 7.4794× 10^{73}DimA Unkown DimA	$No.184$ $\sqrt{\lvert G\rvert}m^{-3}s^0$ 0.5408× 10^{-108} 1.8491× 10^{108}DimA Unkown DimA	$No.185$ $\sqrt{\lvert G\rvert}m^{-4}s^0$ 0.2187× 10^{-142} 4.5725× 10^{142}DimA Unkown DimA	$No.186$ $\sqrt{\lvert G\rvert}m^{-5}s^0$ 0.8849× 10^{-177} 1.1301× 10^{177}DimA Unkown DimA
s^{-1}	$No.187$ $\sqrt{\lvert G\rvert}m^0s^{-1}$ 0.1101×10^{-47} 9.0775× $10^{47}T$ Mag.flux density T	$No.188$ $\sqrt{\lvert G\rvert}m^{-1}s^{-1}$ 0.4456× 10^{-82} 2.2441× 10^{82}DimA Unkown DimA	$No.189$ $\sqrt{\lvert G\rvert}m^{-2}s^{-1}$ 0.1803× 10^{-116} 5.5463× 10^{116}DimA Unkown DimA	$No.190$ $\sqrt{\lvert G\rvert}m^{-3}s^{-1}$ 0.7292× 10^{-151} 1.3714× 10^{151}DimA Unkown DimA	$No.191$ $\sqrt{\lvert G\rvert}m^{-4}s^{-1}$ 0.2950× 10^{--185} 3.3898× 10^{185}DimA Unkown DimA	$No.192$ $\sqrt{\lvert G\rvert}m^{-5}s^{-1}$ 0.1193× 10^{-219} 8.3822× 10^{219}DimA Unkown DimA
s^{-2}	$No.193$ $\sqrt{\lvert G\rvert}m^0s^{-2}$ 1.4854× 10^{-91} 0.6732× $10^{91}Cm^{-3}$ Charge density ρ_0	$No.194$ $\sqrt{\lvert G\rvert}m^{-1}s^{-2}$ 0.6010× 10^{-125} 0.3305× 10^{125}DimA Unkown DimA	$No.195$ $\sqrt{\lvert G\rvert}m^{-2}s^{-2}$ 0.2431× 10^{-159} 4.1135× 10^{159}DimA Unkown DimA	$No.196$ $\sqrt{\lvert G\rvert}m^{-3}s^{-2}$ 0.9833× 10^{-194} 1.0170× 10^{194}DimA Unkown DimA	$No.197$ $\sqrt{\lvert G\rvert}m^{-4}s^{-2}$ 0.3977× 10^{--228} 2.5144× 10^{228}DimA Unkown DimA	$No.198$ $\sqrt{\lvert G\rvert}m^{-5}s^{-2}$ 0.1609× 10^{-262} 6.2150× 10^{262}DimA Unkown DimA
s^{-3}	$No.199$ $\sqrt{\lvert G\rvert}m^0s^{-3}$ 2.0029× 10^{-134} 0.4993× 10^{134}DimA Unkown DimA	$No.200$ $\sqrt{\lvert G\rvert}m^{-1}s^{-3}$ 0.8102× 10^{-168} 1.2343× 10^{168}DimA Unkown DimA	$No.201$ $\sqrt{\lvert G\rvert}m^{-2}s^{-3}$ 0.3278 × 10^{-202} 3.0506× 10^{202}DimA Unkown DimA	$No.202$ $\sqrt{\lvert G\rvert}m^{-3}s^{-3}$ 0.1326× 10^{-236} 7.5415× 10^{236}DimA Unkown DimA	$No.203$ $\sqrt{\lvert G\rvert}m^{-4}s^{-3}$ 0.5363× 10^{-271} 1.8646× 10^{271}DimA Unkown DimA	$No.204$ $\sqrt{\lvert G\rvert}m^{-5}s^{-3}$ 0.2170× 10^{-305} 4.6083× 10^{305}DimA Unkown DimA
s^{-4}	$No.205$ $\sqrt{\lvert G\rvert}m^0s^{-4}$ 2.7008× 10^{-177} 0.3703× 10^{177}DimA Unkown DimA	$No.206$ $\sqrt{\lvert G\rvert}m^{-1}s^{-4}$ 1.0925× 10^{-211} 0.9153× 10^{211}DimA Unkown DimA	$No.207$ $\sqrt{\lvert G\rvert}m^{-2}s^{-4}$ 0.4419× 10^{-245} 2.4278× 10^{245}DimA Unkown DimA	$No.208$ $\sqrt{\lvert G\rvert}m^{-3}s^{-4}$ 0.1788× 10^{-279} 5.5928× 10^{279}DimA Unkown DimA	$No.209$ $\sqrt{\lvert G\rvert}m^{-4}s^{-4}$ 0.7232× 10^{-314} 1.3827× 10^{314}DimA Unkown DimA	$No.210$ $\sqrt{\lvert G\rvert}m^{-5}s^{-4}$ 0.2925× 10^{-348} 3.4188× 10^{348}DimA Unkown DimA
s^{-5}	$No.211$ $\sqrt{\lvert G\rvert}m^0s^{-5}$ 3.6417× 10^{-220} 0.2746× 10^{220}DimA Unkown DimA	$No.212$ $\sqrt{\lvert G\rvert}m^{-1}s^{-5}$ 1.4731× 10^{-254} 0.6788× 10^{254}DimA Unkown DimA	$No.213$ $\sqrt{\lvert G\rvert}m^{-2}s^{-5}$ 0.5959× 10^{-288} 1.6784× 10^{288}DimA Unkown DimA	$No.214$ $\sqrt{\lvert G\rvert}m^{-3}s^{-5}$ 0.2411× 10^{-322} 4.1477× 10^{322}DimA Unkown DimA	$No.215$ $\sqrt{\lvert G\rvert}m^{-4}s^{-5}$ 0.9752× 10^{-357} 1.0255× 10^{357}DimA Unkown DimA	$No.216$ $\sqrt{\lvert G\rvert}m^{-5}s^{-5}$ *0.3945*× 10^{-391} *2.5349*× 10^{391}DimA Unkown DimA

The Seventh Periodic Table of Physical Elements PTPE-Ⅶ $No.217 \sim No.252$

$\sqrt{|G|}m^a s^{-b}$ $a = 0,1,2,3,4,5$; $b = 0,-1,-2,-3,-4,-5$; $B = \sqrt{|G|}$

	m^0	m^1	m^2	m^3	m^4	m^5
s^0	$No.217$ $\sqrt{\vert G\vert}m^0s^0$ 0.8169×10^{-5} Value $\sqrt{\vert G\vert}$	$No.218$ $\sqrt{\vert G\vert}m^1s^0$ 2.0196×10^{29} 0.4951×10^{-29}DimA Unkown DimA	$No.219$ $\sqrt{\vert G\vert}m^2s^0$ 4.9924×10^{63} 0.2003×10^{-63}DimA Unkown DimA	$No.220$ $\sqrt{\vert G\vert}m^3s^0$ 1.2341×10^{98} 0.8103×10^{-98}DimA Unkown DimA	$No.221$ $\sqrt{\vert G\vert}m^4s^0$ 3.0506×10^{132} 0.3278×10^{-132}DimA Unkown DimA	$No.222$ $\sqrt{\vert G\vert}m^5s^0$ 7.5410×10^{166} 0.1326×10^{-166}DimA Unkown DimA
s^1	$No.223$ $\sqrt{\vert G\vert}m^0s^1$ 0.6059×10^{38} 1.6504×10^{-38}DimA Unkown DimA	$No.224$ $\sqrt{\vert G\vert}m^1s^1$ 0.1498×10^{73} 6.6756×10^{-73}DimA Unkown DimA	$No.225$ $\sqrt{\vert G\vert}m^2s^1$ 0.3704×10^{107} 2.6998×10^{-107}DimA Unkown DimA	$No.226$ $\sqrt{\vert G\vert}m^3s^1$ 0.9156×10^{141} 1.0921×10^{-141}DimA Unkown DimA	$No.227$ $\sqrt{\vert G\vert}m^4s^1$ 0.2263×10^{176} 4.4189×10^{-176}DimA Unkown DimA	$No.228$ $\sqrt{\vert G\vert}m^5s^1$ 0.5594×10^{210} $1.7876\times$ 10^{-210}DimA Unkown DimA
s^2	$No.229$ $\sqrt{\vert G\vert}m^0s^2$ 0.4493×10^{81} $2.2257\times$ 10^{-81}DimA Unkown DimA	$No.230$ $\sqrt{\vert G\vert}m^1s^2$ 1.1106×10^{115} $0.9004\times$ 10^{-115}DimA Unkown DimA	$No.231$ $\sqrt{\vert G\vert}m^2s^2$ 2.7454×10^{149} 0.3642×10^{-149}DimA Unkown DimA	$No.232$ $\sqrt{\vert G\vert}m^3s^2$ 6.7866×10^{183} 0.1473×10^{-183}DimA Unkown DimA	$No.233$ $\sqrt{\vert G\vert}m^4s^2$ 1.6776×10^{218} 0.5959×10^{-218}DimA Unkown DimA	$No.234$ $\sqrt{\vert G\vert}m^5s^2$ 4.1470×10^{252} $0.2411\times$ 10^{-252}DimA Unkown DimA
s^3	$No.235$ $\sqrt{\vert G\vert}m^0s^3$ 0.3332×10^{124} $3.0012\times$ 10^{-124}DimA Unkown DimA	$No.236$ $\sqrt{\vert G\vert}m^1s^3$ 0.8236×10^{158} $1.2141\times$ 10^{-158}DimA Unkown DimA	$No.237$ $\sqrt{\vert G\vert}m^2s^3$ 2.0360×10^{192} 0.4911×10^{-192}DimA Unkown DimA	$No.238$ $\sqrt{\vert G\vert}m^3s^3$ 5.0330×10^{226} 0.1986×10^{-226}DimA Unkown DimA	$No.239$ $\sqrt{\vert G\vert}m^4s^3$ 1.2441×10^{261} 0.8038×10^{-261}DimA Unkown DimA	$No.240$ $\sqrt{\vert G\vert}m^5s^3$ 3.0754×10^{296} $0.3251\times$ 10^{-296}DimA Unkown DimA
s^4	$No.241$ $\sqrt{\vert G\vert}m^0s^4$ 0.2471×10^{167} $4.0469\times$ 10^{-167}DimA Unkown DimA	$No.242$ $\sqrt{\vert G\vert}m^1s^4$ 0.6109×10^{201} $1.6369\times$ 10^{-201}DimA Unkown DimA	$No.243$ $\sqrt{\vert G\vert}m^2s^4$ 1.5101×10^{235} 0.6622×10^{-235}DimA Unkown DimA	$No.244$ $\sqrt{\vert G\vert}m^3s^4$ 3.7339×10^{269} 0.2678×10^{-269}DimA Unkown DimA	$No.245$ $\sqrt{\vert G\vert}m^4s^4$ 9.2302×10^{303} 0.1083×10^{-303}DimA Unkown DimA	$No.246$ $\sqrt{\vert G\vert}m^5s^4$ 2.2817×10^{338} $0.4383\times$ 10^{-338}DimA Unkown DimA
s^5	$No.247$ $\sqrt{\vert G\vert}m^0s^5$ 0.1833×10^{210} $5.4555\times$ 10^{-210}DimA Unkown DimA	$No.248$ $\sqrt{\vert G\vert}m^1s^5$ 0.4531×10^{244} $2.2070\times$ 10^{-244}DimA Unkown DimA	$No.249$ $\sqrt{\vert G\vert}m^2s^5$ 1.1201×10^{278} 0.8928×10^{-278}DimA Unkown DimA	$No.250$ $\sqrt{\vert G\vert}m^3s^5$ 2.7688×10^{312} 0.3612×10^{-312}DimA Unkown DimA	$No.251$ $\sqrt{\vert G\vert}m^4s^5$ 6.8444×10^{346} 0.1461×10^{-346}DimA Unkown DimA	$No.252$ $\sqrt{\vert G\vert}m^5s^5$ 1.6919×10^{381} $0.5910\times$ 10^{-381}DimA Unkown DimA

The Eighth eriodic Table of Physical Elements PTPE-Ⅷ *No*.253～ *No*.288

$\sqrt{|G|}m^a s^{-b}$ $a = 0,-1,-2,-3,-4,-5$; $b = 0,-1,-2,-3,-4,-5$; $B = \sqrt{|G|}$

	m^0	m^{-1}	m^{-2}	m^{-3}	m^{-4}	m^{-5}
s^0	*No*.253 $\sqrt{\vert G\vert}m^0s^0$ 0.8169×10^{-5} Value $\sqrt{\vert G\vert}$	*No*.254 $\sqrt{\vert G\vert}m^{-1}s^0$ 0.3305×10^{-39} 3.0257×10^{39}DimA Unkown DimA	*No*.255 $\sqrt{\vert G\vert}m^{-2}s^0$ 0.1337×10^{-73} 7.4794×10^{73}DimA Unkown DimA	*No*.256 $\sqrt{\vert G\vert}m^{-3}s^0$ 0.5408×10^{-108} 1.8491×10^{108}DimA Unkown DimA	*No*.257 $\sqrt{\vert G\vert}m^{-4}s^0$ 0.2187×10^{-142} 4.5725×10^{142}DimA Unkown DimA	*No*.258 $\sqrt{\vert G\vert}m^{-5}s^0$ 0.8849×10^{-177} 1.1301×10^{177}DimA Unkown DimA
s^1	*No*.259 $\sqrt{\vert G\vert}m^0s^1$ 0.6059×10^{38} 1.6504×10^{-38}DimA Unkown DimA	*No*.260 $\sqrt{\vert G\vert}m^{-1}s^1$ 0.2451×10^{4} 4.0800×10^{-4}DimA Unkown DimA	*No*.261 $\sqrt{\vert G\vert}m^{-2}s^1$ 0.9915×10^{-31} 1.0086×10^{31}DimA Unkown DimA	*No*.262 $\sqrt{\vert G\vert}m^{-3}s^1$ 0.4011×10^{-65} 2.4931×10^{65}DimA Unkown DimA	*No*.263 $\sqrt{\vert G\vert}m^{-4}s^1$ 0.1622×10^{-99} 6.1652×10^{99}DimA Unkown DimA	*No*.264 $\sqrt{\vert G\vert}m^{-5}s^1$ 0.6561×10^{-134} 1.5237×10^{134}DimA Unkown DimA
s^2	*No*.265 $\sqrt{\vert G\vert}m^0s^2$ 0.4493×10^{81} 2.2257×10^{-81}DimA Unkown DimA	*No*.266 $\sqrt{\vert G\vert}m^{-1}s^2$ 0.1818×10^{47} 5.5006×10^{-47}DimA Unkown DimA	*No*.267 $\sqrt{\vert G\vert}m^{-2}s^2$ 0.7353×10^{12} 1.3600×10^{-12}DimA Unkown DimA	*No*.268 $\sqrt{\vert G\vert}m^{-3}s^2$ 0.2974×10^{-22} 3.3933×10^{22}DimA Unkown DimA	*No*.269 $\sqrt{\vert G\vert}m^{-4}s^2$ 0.1203×10^{-56} 8.3126×10^{56}DimA Unkown DimA	*No*.270 $\sqrt{\vert G\vert}m^{-5}s^2$ 0.4867×10^{-91} 2.0547×10^{91}DimA Unkown DimA
s^3	*No*.271 $\sqrt{\vert G\vert}m^0s^3$ 0.3332×10^{124} 3.0012×10^{-124}DimA Unkown DimA	*No*.272 $\sqrt{\vert G\vert}m^{-1}s^3$ 0.1348×10^{90} 7.4184×10^{-90}DimA Unkown DimA	*No*.273 $\sqrt{\vert G\vert}m^{-2}s^3$ 0.5453×10^{55} 1.8339×10^{-55}DimA Unkown DimA	*No*.274 $\sqrt{\vert G\vert}m^{-3}s^3$ 0.2206×10^{21} 4.5331×10^{-21}DimA Unkown DimA	*No*.275 $\sqrt{\vert G\vert}m^{-4}s^3$ 0.8923×10^{-14} 1.1207×10^{14}DimA Unkown DimA	*No*.276 $\sqrt{\vert G\vert}m^{-5}s^3$ 0.3610×10^{-48} 2.7701×10^{48}DimA Unkown DimA
s^4	*No*.277 $\sqrt{\vert G\vert}m^0s^4$ 0.2471×10^{167} 4.0469×10^{-167}DimA Unkown DimA	*No*.278 $\sqrt{\vert G\vert}m^{-1}s^4$ 0.9995×10^{132} 1.0005×10^{-132}DimA Unkown DimA	*No*.279 $\sqrt{\vert G\vert}m^{-2}s^4$ 0.4043×10^{98} 2.4728×10^{-98}DimA Unkown DimA	*No*.280 $\sqrt{\vert G\vert}m^{-3}s^4$ 0.1636×10^{64} 6.1125×10^{-64}DimA Unkown DimA	*No*.281 $\sqrt{\vert G\vert}m^{-4}s^4$ 0.6618×10^{29} 1.5110×10^{-29}DimA Unkown DimA	*No*.282 $\sqrt{\vert G\vert}m^{-5}s^4$ 0.2677×10^{-5} 3.7355×10^{5}DimA Unkown DimA
s^5	*No*.283 $\sqrt{\vert G\vert}m^0s^5$ 0.1833×10^{210} 5.4555×10^{-210}DimA Unkown DimA	*No*.284 $\sqrt{\vert G\vert}m^{-1}s^5$ 0.7414×10^{175} 1.3488×10^{-175}DimA Unkown DimA	*No*.285 $\sqrt{\vert G\vert}m^{-2}s^5$ 0.2999×10^{141} $3.3344\times$ 10^{-141}DimA Unkown DimA	*No*.286 $\sqrt{\vert G\vert}m^{-3}s^5$ 0.1213×10^{107} $8.2440\times$ 10^{-107}DimA Unkown DimA	*No*.287 $\sqrt{\vert G\vert}m^{-4}s^5$ 0.4906×10^{72} 2.0383×10^{-72}DimA Unkown DimA	*No*.288 $\sqrt{\vert G\vert}m^{-5}s^5$ 0.1985×10^{38} 5.0378×10^{-38}DimA Unkown DimA

The Ninth Periodic Table of Elements PTPE-Ⅸ $No.289 \sim No.324$

$m^a s^{-b}$ $a = 0,1,2,3,4,5$; $b = 0,1,2,3,4,5$; $B = 1$

	m^0	m^1	m^2	m^3	m^4	m^5
s^0	$No.289$ $m^0 s^0$ 1.0000×10^0 Value 1	$No.290$ $m^1 s^0$ 2.4721×10^{34} $0.4045\times 10^{-34} m$ 1st dim. space $\boldsymbol{m}$	$No.291$ $m^2 s^0$ 6.1111×10^{68} $0.1636\times 10^{-68} m^2$ 2nd dim. space $\boldsymbol{m^2}$	$No.292$ $m^3 s^0$ 1.5107×10^{103} $0.6619\times 10^{-103} m^3$ 3rd dim. space $\boldsymbol{m^3}$	$No.293$ $m^4 s^0$ 3.7346×10^{137} $0.2678\times 10^{-13}\ m^4$ 4th dim. space $\boldsymbol{m^4}$	$No.294$ $m^5 s^0$ 9.2321×10^{171} $0.1083\times 10^{-17}\ m^5$ 5th dim. space $\boldsymbol{m^5}$
s^{-1}	$No.295$ $m^0 s^{-1}$ 1.3483×10^{-43} $0.7416\times 10^{43} \boldsymbol{H_z}$ Frequency $\boldsymbol{f}$	$No.296$ $m^1 s^{-1}$ 0.3333×10^{-8} $3\times 10^8 ms^{-1}$ Velocty, Conductance v，S	$No.297$ $m^2 s^{-1}$ 0.8240×10^{26} $1.2136\times 10^{-26} m^2 s^{-1}$ Kinematic vescosity v	$No.298$ $m^3 s^{-1}$ 2.0370×10^{60} $0.4909\times 10^{-60} m^3 s^{-1}$ Flow rate Q	$No.299$ $m^4 s^{-1}$ $5.0357\times \mathbf{10^{94}}$ $\mathbf{0.1986 \times 10^{-94}}$DimA Unknown DimA	$No.300$ $m^5 s^{-1}$ $1.2448\times \mathbf{10^{129}}$ $\mathbf{0.8033 \times 10^{-129}}$DimA Unknown DimA
s^{-2}	$No.301\ s^2$ $m^0 s^{-2}$ 1.8181×10^{-86} 0.5500×10^{86} Negtive 2nd dim. time $\boldsymbol{s^{-2}}$	$No.302$ $m^1 s^{-2}$ 0.4494×10^{-51} $2.2252\times 10^{51} ms^{-2}$ Acceleration a	$No.303$ $m^2 s^{-2}$ 0.1111×10^{-16} $9\times 10^{16} Jkg^{-1}$ Specific energy Jkg^{-1}	$No.304$ $m^3 s^{-2}$ $2.7467\times \mathbf{10^{17}}$ $\mathbf{0.4038 \times 10^{-17}}$DimA Unknown DimA	$No.305$ $m^4 s^{-2}$ $6.7901\times \mathbf{10^{51}}$ $\mathbf{0.1473 \times 10^{-51}}$DimA Unknown DimA	$No.306$ $m^5 s^{-2}$ $1.6785\times \mathbf{10^{86}}$ $\mathbf{0.5957 \times 10^{-86}}$**DimA** Unknown DimA
s^{-3}	$No.307\ s^3$ $m^0 s^{-3}$ 2.4516×10^{-12} 0.4079×10^{129} Nagative 3rd dim. time $\boldsymbol{s^{-3}}$	$No.308$ $m^1 s^{-3}$ $6.0606\times \mathbf{10^{-95}}$ $\mathbf{0.1650 \times 10^{95}}$DimA Unknown DimA	$No.309$ $m^2 s^{-3}$ 1.4982×10^{-60} $0.6675\times 10^{60} m^2 s^{-3}$ Absorbed dose rate Gys^{-1}	$No.310$ $m^3 s^{-3}$ $3.7037\times \mathbf{10^{-26}}$ $\mathbf{0.2700 \times 10^{26}}$DimA Unknown DimA	$No.311$ $m^4 s^{-3}$ $9.1558\times \mathbf{10^{8}}$ $\mathbf{0.1092 \times 10^{-8}}$DimA Unknown DimA	$No.312$ $m^5 s^{-3}$ $2.2633\times \mathbf{10^{43}}$ $\mathbf{0.4418 \times 10^{-43}}$DimA Unknown DimA
s^{-4}	$No.313\ s^4$ $m^0 s^{-4}$ 3.3057×10^{-172} 0.3025×10^{172} Nagative 4th dim. time $\boldsymbol{s^{-4}}$	$No.314$ $m^1 s^{-4}$ $8.1721\times \mathbf{10^{-138}}$ $\mathbf{0.1224 \times 10^{138}}$DimA Unknown DimA	$No.315$ $m^2 s^{-4}$ $2.0202\times \mathbf{10^{-103}}$ $\mathbf{0.4950 \times 10^{103}}$DimA Unknown DimA	$No.316$ $m^3 s^{-4}$ $4.9941\times \mathbf{10^{-69}}$ $\mathbf{0.2002 \times 10^{69}}$DimA Unknown DimA	$No.317$ $m^4 s^{-4}$ $1.2346\times \mathbf{10^{-34}}$ $\mathbf{0.8100 \times 10^{34}}$DimA Unknown DimA	$No.318$ $m^5 s^{-4}$ $3.0519\times \mathbf{10^{0}}$ $\mathbf{0.3277 \times 10^{0}}$DimA Unknown DimA
s^{-5}	$No.319\ s^5$ $m^0 s^{-5}$ 4.4575×10^{-21} 0.2243×10^{215} Negative 5th dime. time $\boldsymbol{s^{-5}}$	$No.320$ $m^1 s^{-5}$ $1.1019\times \mathbf{10^{-180}}$ $\mathbf{0.9075 \times 10^{180}}$DimA 未知元素 DimA	$No.321$ $m^2 s^{-5}$ $2.7240\times \mathbf{10^{-146}}$ $\mathbf{0.3671 \times 10^{146}}$DimA 未知元素 DimA	$No.322$ $m^3 s^{-5}$ $6.7340\times \mathbf{10^{-112}}$ $\mathbf{0.1485 \times 10^{112}}$DimA 未知元素 DimA	$No.323$ $m^4 s^{-5}$ $1.6646\times \mathbf{10^{-77}}$ $\mathbf{0.6007 \times 10^{77}}$DimA 未知元素 DimA	$No.324$ $m^5 s^{-5}$ $4.1149\times \mathbf{10^{-43}}$ $\mathbf{0.2430 \times 10^{43}}$**DimA** 未知元素 DimA

The Tenth Periodic Table of Physical Elements PTPE-X $No.325 \sim No.360$

$m^a s^{-b}$ $a = 0,-1,-2,-3,-4,-5$; $b = 0,1,2,3,4,5$; $B = 1$

	m^0	m^{-1}	m^{-2}	m^{-3}	m^{-4}	m^{-5}
s^0	$No.325$ $m^0 s^0$ 1.0000×10^0 Value 1	$No.326$ $m^{-1} s^0$ 0.4045×10^{-34} $2.4722\times 10^{34} m^{-1}$ Number of wave k	$No.327$ $m^{-2} s^0$ 0.1636×10^{-6} $6.1111\times 10^{68} m^{-2}$ Nagetive 2nd dim. space m^{-2}	$No.328$ $m^{-3} s^0$ 0.6619×10^{-10} $1.5107\times 10^{103} m^{-3}$ Nagetive 3rd dim. space m^{-3}	$No.329$ $m^{-4} s^0$ 0.2677×10^{-137} $3.7346\times 10^{137} m^{-4}$ Nagetive 4th dim. space m^{-4}	$No.330$ $m^{-5} s^0$ 0.1083×10^{-171} $9.2321\times 10^{171} m^{-5}$ Nagetive 5th dim. space m^{-5}
s^{-1}	$No.331$ $m^0 s^{-1}$ 1.3483×10^{-43} $0.7416\times 10^{43} H_z$ Freuency Hz	$No.332$ $m^{-1} s^{-1}$ 0.5454×10^{-77} 1.8335×10^{77}DimA Unkown DimA	$No.333$ $m^{-2} s^{-1}$ 0.2206×10^{-111} 4.5331×10^{111}DimA Unkown DimA	$No.334$ $m^{-3} s^{-1}$ 0.8926×10^{-146} 1.1158×10^{146}DimA Unkown DimA	$No.335$ $m^{-4} s^{-1}$ 0.3610×10^{-180} 2.7701×10^{180}DimA Unkown DimA	$No.336$ $m^{-5} s^{-1}$ 0.1460×10^{-214} 6.8493×10^{214}DimA Unkown DimA
s^{-2}	$No.337\ s^{-2}$ $m^0 s^{-2}$ 1.8181×10^{-86} $0.5500\times 10^{86} s^{-2}$ Negative 2nd dim. time s^{-2}	$No.338$ $m^{-1} s^{-2}$ 0.7354×10^{-120} 1.3417×10^{120}DimA Unkown DimA	$No.339$ $m^{-2} s^{-2}$ 0.2975×10^{-154} 3.3613×10^{154}DimA Unkown DimA	$No.340$ $m^{-3} s^{-2}$ 0.1204×10^{-188} 8.3056×10^{188}DimA Unkown DimA	$No.341$ $m^{-4} s^{-2}$ 0.4870×10^{-2} 2.0533×10^{223}DimA Unkown DimA	$No.342$ $m^{-5} s^{-2}$ 0.1970×10^{-257} 5.0787×10^{257}DimA Unkown DimA
s^{-3}	$No.343\ s^{-3}$ $m^0 s^{-3}$ 2.4516×10^{-129} $0.4079\times 10^{129} s^{-3}$ Negative 3rd dim. time s^{-3}	$No.344$ $m^{-1} s^{-3}$ 0.9917×10^{-163} 1.0084×10^{163}DimA Unkown DimA	$No.345$ $m^{-2} s^{-3}$ 0.4011×10^{-19} 2.4931×10^{197}DimA Unkown DimA	$No.346$ $m^{-3} s^{-3}$ 0.1623×10^{-231} 6.1614×10^{231}DimA Unkown DimA	$No.347$ $m^{-4} s^{-3}$ 0.6565×10^{-266} 1.5232×10^{266}DimA Unkown DimA	$No.348$ $m^{-5} s^{-3}$ 0.2655×10^{-300} 3.7665×10^{300}DimA Unkown DimA
s^{-4}	$No.349\ s^{-4}$ $m^0 s^{-4}$ 3.3057×10^{-172} $0.3025\times 10^{172} s^{-4}$ Negative 4th dim. time s^{-4}	$No.350$ $m^{-1} s^{-4}$ 1.3372×10^{-206} 0.7478×10^{206} DimA Unkown DimA	$No.351$ $m^{-2} s^{-4}$ 0.5409×10^{-240} 1.8488×10^{240}DimA Unkown DimA	$No.352$ $m^{-3} s^{-4}$ 0.2188×10^{-274} 4.5704×10^{274}DimA Unkown DimA	$No.353$ $m^{-4} s^{-4}$ 0.8851×10^{-309} 1.1298×10^{309}DimA Unkown DimA	$No.354$ $m^{-5} s^{-4}$ 0.3580×10^{-343} 2.7933×10^{343}DimA Unkown DimA
s^{-5}	$No.355\ s^{-5}$ $m^0 s^{-5}$ 4.4575×10^{-215} $0.2243\times 10^{215} s^{-5}$ Negative 5th dim. time s^{-5}	$No.356$ $m^{-1} s^{-5}$ 1.8031×10^{-249} 0.5546×10^{249}DimA Unkown DimA	$No.357$ $m^{-2} s^{-5}$ 0.7294×10^{-28} 1.3710×10^{283}DimA Unkown DimA	$No.358$ $m^{-3} s^{-5}$ 0.2951×10^{-317} 3.3887×10^{317}DimA Unkown DimA	$No.359$ $m^{-4} s^{-5}$ 0.1194×10^{-351} 8.3752×10^{351}DimA Unkown DimA	$No.360$ $m^{-5} s^{-5}$ 0.4829×10^{-386} 2.0708×10^{386}DimA Unkown DimA

The Eleventh Periodic Table of Physical Elements PTPE-XI $No.361 \sim No.396$

$m^a s^{-b}$ $a = 0,1,2,3,4,5$; $b = 0,-1,-2,-3,-4,-5$; $B = 1$

	m^0	m^1	m^2	m^3	m^4	m^5
s^0	$No.361$ $m^0 s^0$ 1.0000×10^{0} Value 1	$No.362$ $m^1 s^0$ 2.4720×10^{34} $0.4045\times 10^{-34}F$ Capacitance ***F***	$No.363$ $m^2 s^0$ 6.1111×10^{68} $0.1636\times 10^{-68}m^2$ 2nd dim. space $\boldsymbol{m^2}$	$No.364$ $m^3 s^0$ 1.5107×10^{103} $0.6619\times 10^{-103}m^3$ 3rd dim. space $\boldsymbol{m^3}$	$No.365$ $m^4 s^0$ 3.7345×10^{137} $0.2678\times 10^{-13}\ m^4$ 4th dim. space $\boldsymbol{m^4}$	$No.366$ $m^5 s^0$ 9.2321×10^{171} $0.1083\times 10^{-171}m^5$ 5th dim. space $\boldsymbol{m^5}$
s^1	$No.367$ $m^0 s^1$ 0.7416×10^{43} $1.3483\times 10^{-43}s$ 1st dim. time s	$No.368$ $m^1 s^1$ 1.8333×10^{77} 0.5455×10^{-77}DimA Unknown DimA	$No.369$ $m^2 s^1$ 4.5321×10^{111} 0.2202×10^{-111}DimA Unknow DimA	$No.370$ $m^3 s^1$ 1.1203×10^{146} 0.8926×10^{-146}DimA Unknow DimA	$No.371$ $m^4 s^1$ 2.7693×10^{180} 0.3611×10^{-180}DimA Unknow DimA	$No.372$ $m^5 s^1$ 6.8467×10^{214} 0.1461×10^{-214}DimA Unknow DimA
s^2	$No.373$ $m^0 s^2$ 0.5500×10^{86} $1.8182\times 10^{-86}s^2$ 2nd dim. time s^2	$No.374$ $m^1 s^2$ 1.3596×10^{120} 0.7355×10^{-120}DimA Unknow DimA	$No.375$ $m^2 s^2$ 3.3611×10^{154} 0.2975×10^{-154}DimA Unknow DimA	$No.376$ $m^3 s^2$ 8.3088×10^{188} 0.1204×10^{-188}DimA Unknow DimA	$No.377$ $m^4 s^2$ 2.0540×10^{223} 0.4869×10^{-223}DimA Unknow DimA	$No.378$ $m^5 s^2$ 5.0776×10^{257} 0.1969×10^{-25} DimA Unknow DimA
s^3	$No.379$ $m^0 s^3$ 0.4079×10^{129} $2.4516\times 10^{-129}s^3$ 3rd dim. time s^3	$No.380$ $m^1 s^3$ 1.0083×10^{163} 0.9918×10^{-16} DimA Unknow DimA	$No.381$ $m^2 s^3$ 2.4926×10^{197} 0.4006×10^{-19} DimA Unknow DimA	$No.382$ $m^3 s^3$ 6.1617×10^{231} 0.1623×10^{-231}DimA Unknow DimA	$No.383$ $m^4 s^3$ 1.5232×10^{266} 0.6565×10^{-26} DimA Unknow DimA	$No.384$ $m^5 s^3$ 3.7656×10^{300} 0.2656×10^{-300}DimA Unknow DimA
s^4	$No.385$ $m^0 s^4$ 0.3025×10^{172} $3.3058\times 10^{-172}s^4$ 4th dim. time s^4	$No.386$ $m^1 s^4$ 0.7478×10^{206} 1.3373×10^{-206} imA Unknow DimA	$No.387$ $m^2 s^4$ 1.8486×10^{240} 0.5409×10^{-240}DimA Unknow DimA	$No.388$ $m^3 s^4$ 4.5698×10^{274} 0.2188×10^{-27} DimA Unknow DimA	$No.389$ $m^4 s^4$ 1.1297×10^{309} 0.8852×10^{-309}DimA Unknow DimA	$No.390$ $m^5 s^4$ 2.7927×10^{343} 0.3581×10^{-343}DimA Unknow DimA
s^5	$No.391$ $m^0 s^5$ 0.2243×10^{215} $4.4575\times 10^{-215}s^5$ 5th dim. time s^5	$No.392$ $m^1 s^5$ 0.5545×10^{249} 1.8034×10^{-249}DimA Unknow DimA	$No.393$ $m^2 s^5$ 1.3709×10^{283} 0.7294×10^{-283}DimA Unknow DimA	$No.394$ $m^3 s^5$ 3.3888×10^{317} 0.2951×10^{-317}DimA Unknow DimA	$No.395$ $m^4 s^5$ 8.3771×10^{351} 0.1193×10^{-35} DimA Unknow DimA	$No.396$ $m^5 s^5$ 2.0708×10^{386} 0.4829×10^{-386}DimA Unknow DimA

The Twelfth Periodic Table of Physical Elements PTPE-XII $No.397 \sim No.432$

$m^a s^{-b}$ $a = 0,-1,-2,-3,-4,-5$; $b = 0,-1,-2,-3,-4,-5$; $B = 1$

	m^0	m^{-1}	m^{-2}	m^{-3}	m^{-4}	m^{-5}
s^0	$No.397$ $m^0 s^0$ 1×10^{0} $1\times 10^{0} C^2 N^{-1} m^{-2}$ Permittivity ϵ	$No.398$ $m^{-1} s^0$ 0.4045×10^{-34} $2.4722\times 10^{34} m^{-1}$ Number of waves k	$No.399$ $m^{-2} s^0$ 0.1636×10^{-68} $6.1125\times 10^{68} m^{-2}$ Negative 2nd dim. space m^{-2}	$No.400$ $m^{-3} s^0$ $.0.6619\times 10^{-103}$ $1.5108\times 10^{103} m^{-3}$ Negative 3rd dim. space m^{-3}	$No.401$ $m^{-4} s^0$ 0.2677×10^{-137} $3.7341\times 10^{137} m^{-4}$ Negative 4th dim. space m^{-4}	$No.402$ $m^{-5} s^0$ 0.1083×10^{-171} $9.2336\times 10^{171} m^{-5}$ Negative 5th dim. space m^{-5}
s^1	$No.403$ $m^0 s^1$ 0.7416×10^{43} 1.3483×10^{-43}s 1st dim. time s	$No.404$ $m^{-1} s^1$ 3×10^{8} $0.3333\times 10^{-8}\Omega$ Resistance Ω	$No.405$ $m^{-2} s^1$ 1.2136×10^{-26} 0.8240×10^{26}DimA Unknown DimA	$No.406$ $m^{-3} s^1$ 0.4909×10^{-60} 2.0370×10^{60}DimA Unknown Dim	$No.407$ $m^{-4} s^1$ 0.1986×10^{-94} 5.0352×10^{94}DimA Unknown DimA	$No.408$ $m^{-5} s^1$ 0.8033×10^{-129} 1.2449×10^{129}DimA Unknown DimA
s^2	$No.409$ $m^0 s^2$ 0.5500×10^{86} $1.8182\times 10^{-86} s^2$ 2nd dim. time s^2	$No.410$ $m^{-1} s^2$ 0.2224×10^{52} $4.4946\times 10^{-52} VsA^{-1}$ Inductance H	$No.411$ $m^{-2} s^2$ 9×10^{16} $0.1111\times 10^{-16} m^{-2} s^2$ Permeabiolity μ	$No.412$ $m^{-3} s^2$ 3.6407×10^{-18} 0.2747×10^{18}DimA Unknown DimA	$No.413$ $m^{-4} s^2$ 1.4727×10^{-52} 0.6790×10^{52}DimA Unknown DimA	$No.414$ $m^{-5} s^2$ 0.5957×10^{-86} 1.6787×10^{86}DimA Unknown DimA
s^3	$No.415$ $m^0 s^3$ 0.4079×10^{129} $2.4516\times 10^{-12} s^3$ 3rd dim. time s^3	$No.416$ $m^{-1} s^3$ 1.6499×10^{94} 0.6061×10^{-9} DimA Unknown DimA	$No.417$ $m^{-2} s^3$ 0.6675×10^{60} 1.4981×10^{-60}DimA Unknown DimA	$No.418$ $m^{-3} s^3$ 0.2700×10^{26} 3.7038×10^{-26}DimA Unknown DimA	$No.419$ $m^{-4} s^3$ 0.1092×10^{-8} 9.1575×10^{8}DimA Unknown DimA	$No.420$ $m^{-5} s^3$ 0.4418×10^{-43} 2.2635×10^{43}DimA Unknown DimA
s^4	$No.421$ $m^0 s^4$ 0.3025×10^{172} $3.3058\times 10^{-172} s^4$ 4th dim. time s^4	$No.422$ $m^{-1} s^4$ 0.1223×10^{138} 8.1766×10^{-138}DimA Unknown DimA	$No.423$ $m^{-2} s^4$ 0.4947×10^{103} 2.0202×10^{-103}DimA Unknown DimA	$No.424$ $m^{-3} s^4$ 0.2002×10^{69} 4.9950×10^{-69}DimA Unknown DimA	$No.425$ $m^{-4} s^4$ 0.8100×10^{34} 1.2345×10^{-34}DimA Unknown DimA	$No.426$ $m^{-5} s^4$ 0.3277×10^{0} 3.0516×10^{0}DimA Unknown DimA
s^5	$No.427$ $m^0 s^5$ 0.2243×10^{215} $4.4583\times 10^{-215} s^5$ 5th dim. time s^5	$No.428$ $m^{-1} s^5$ 0.9074×10^{180} 1.1020×10^{-180}DimA Unknown DimA	$No.429$ $m^{-2} s^5$ 0.3671×10^{146} 2.7241×10^{-146}DimA Unknown DimA	$No.430$ $m^{-3} s^5$ 0.1485×10^{112} 6.7340×10^{-11} DimA Unknown DimA	$No.431$ $m^{-4} s^5$ 0.6007×10^{77} 1.6647×10^{-77}DimA Unknown DimA	$No.432$ $m^{-5} s^5$ 0.2430×10^{43} 4.1152×10^{-43}DimA Unknown DimA

The Thirteenth Periodic Table of Physical Elements（A） PTPE-XIII-A $No.433 \sim No.444$

$Bm^{a}s^{-b}$ $a = 0,\pm1,\pm2,\pm3,\pm4,\pm5$ $b = 0,\pm1,\pm2,\pm3,\pm4,\pm5$

$\|G\|$	$m^{\pm3}$	$m^{\pm1}$	$m^{\pm2}$	$m^{\pm3}$	$m^{\pm4}$	$m^{\pm5}$
s^{0}	$No.433$ $Bm^{0}s^{0}$ Value $B \geq \|G\|$ **No.433-1** $\|G\|^{-1}m^{0}s^{0}$ 0.1498×10^{11} $6.6745 \times 10^{-11}m^{3}kg^{-1}s^{-2}$ Modulus of G C_{g}	$No.434-1$ $\frac{1}{\beta}\|G\|m^{1}s^{0}$ 0.7242×10^{23} $1.3804\times 10^{-23}JK^{-1}$ Entropy S $No.434-2$ $a^{-1}m^{1}s^{0}$ 0.3386×10^{36} $2.9527 \times 10^{-36}kg^{-1}mol^{-1} \times s^{3}A^{2}$ mol conductivity Λ_{m}	*No.435* $Bm^{0}s^{\mp2}\&STV(Bm^{0}s^{\mp2})$ Unknown ***DimA***	*No.436* $Bm^{0}s^{\mp3}\&STV(Bm^{0}s^{\mp3})$ Unknown ***DimA***	*No.43*未 $Bm^{0}s^{\mp4}\&STV(Bm^{0}s^{\mp4})$ Unknown DimA	*No.438* $Bm^{\mp5}s^{0}\&STV(Bm^{\mp5}s^{0})$ Unknown DimA
$s^{\pm1}$	$No.439-1$ $\frac{1}{\beta}\|G\|m^{0}s^{-1}$ 0.3950×10^{-54} $2.5312 \times 10^{54}Wm^{-1}K^{-1}$ Thermal conductivity k	$No.440-1$ $\frac{a^{-1}}{\beta}\|G\|m^{-1}s^{1}$ 0.1204×10^{0} $8.3043JK^{-1}mol^{-1}$ Mol entropy S_{m} $No.440-2$ $a^{-1}m^{1}s^{1}$ 2.5117×10^{79} $0.3981 \times 10^{-79}m^{3}mol^{-1}$ Mol volume $m^{3}mol^{-1}$ $No.440-3$ $am^{-1}s^{=1}$ 0.3981×10^{-7} $2.5117 \times 10^{79}molm^{-3}$ Mol density $molm^{-3}$	$No.441$ $am^{2}s^{-1}$ 6.0147×10^{23} $0.1662 \times 10^{-23}mol$ molar mol	No.442 $Bm^{0}s^{\mp5}\&STV(Bm^{\mp1}s^{\mp3})$ Unknown ***DimA***	No.443 $Bm^{0}s^{\mp5}\&STV(Bm^{\mp1}s^{\mp4})$ 未知元素 DimA	No.444 $Bm^{0}s^{\mp5}\&STV(Bm^{\mp1}s^{\mp5})$ Unknown DimA

The Thirteenth Periodic Table of Physical Elements (B) PTPE-XIII-B

$No.445 \sim No.468$
$a = 0,\pm1,\pm2,\pm3,\pm4,\pm5 \qquad b = 0,\pm1,\pm2,\pm3,\pm4,\pm5$

$S^{\pm2}$	$No.445-1$ $\lvert M_G \rvert s_{i,i-1}^{-2}$ 0.9917×10^{-93} $1.0083\times 10^{93}\lvert M_G\rvert s^{-2}$ Unit information $C_{Iu}(t)$ $No.445-2$ $\lvert G\rvert^{-1} m^0 s^2$ 0.8240×10^{96} $1.2136\times 10^{-96} m^3 kg^{-1}$ Specific volume **V**	No.446 $Bm^{\mp1}s^{\mp2}$&$STV(Bm^{\mp1}s^{\mp2})$ Unknown DimA	$No.447$ $\frac{1}{\beta}m^{-2}s^2$ 0.3951×10^{16} $2.5310\times 10^{-16} Jkg^{-1}K^{-1}$ Specific entropy S_S	$No.448$ $Bm^{\pm3}s^{\pm2}$ $STV(Bm^{\pm3}s^{\pm2})$ Unknown **DimA**	$No.449$ $Bm^{\pm4}s^{\pm2}$ $STV(Bm^{\pm4}s^{\pm2})$ Unknown **DimA**	No.450 $Bm^{\mp5}s^{\mp2}$&$STV(Bm^{\mp1}s^{\mp5})$ Unknown **DimA**
$S^{\pm3}$	$No.451$ $Bm^0s^{\pm3}$ $STV(Bm^0s^{\pm3})$ Unknown **DimA**	No.452 $Bm^{\mp1}s^{\mp3}$&$STV(Bm^{\mp1}s^{\mp3})$ Unknown DimA	$No.453$ $Bm^{\pm2}s^{\pm3}$ $STV(Bm^{\pm2}s^{\pm3})$ Unknown **DimA**	$No.454$ $a^{-1}\lvert G\rvert m^3 s^{-3}$ 3.3867×10^{-34} $0.2952\times 10^{34}\ J\cdot mol^{-1}$ Mol energy E_{nm}	$No.455$ $Bm^{\pm4}s^{\pm3}$ $STV(Bm^{\pm4}s^{\pm3})$ Unknown **DimA**	No.456 $Bm^{\mp5}s^{\mp3}$&$STV(Bm^{\mp5}s^{\mp3})$ Unknown DimA
$S^{\pm4}$	$No.457$ $Bm^0s^{\pm4}$ $STV(Bm^0s^{\pm4})$ Unknown **DimA**	No.458 $Bm^{\mp1}s^{\mp4}$&$STV(Bm^{\mp1}s^{\mp4})$ Unknown DimA	$No.459$ $Bm^{\pm2}s^{\pm4}$ $STV(Bm^{\pm2}s^{\pm4})$ Unknown **DimA**	$No.460$ $Bm^{\pm3}s^{\pm4}$ $STV(Bm^{\pm3}s^{\pm4})$ Unknown **DimA**	$No.461$ $\beta m^4 s^{-4}$ 2.8120×10^{-33} $0.3556\times 10^{33} K$ Thermodynamic temperature K	No.462 $Bm^{\mp1}s^{\mp4}$&$STV(Bm^{\mp1}s^{\mp4})$ Unknown DimA
$S^{\pm5}$	$No.463$ $Bm^0s^{\pm5}$ $STV(Bm^0s^{\pm5})$ Unknown **DimA**	No.464 $Bm^{\mp1}s^{\mp5}$&$STV(Bm^{\mp1}s^{\mp5})$ Unknown DimA	$No.465$ $Bm^{\pm2}s^{\pm5}$ $STV(Bm^{\pm2}s^{\pm5})$ Unknown **DimA**	$No.466$ $Bm^{\pm3}s^{\pm5}$ $STV(Bm^{\pm3}s^{\pm5})$ Unknown **DimA**	$No.467$ $Bm^{\pm4}s^{\pm5}$ $STV(Bm^{\pm4}s^{\pm5})$ Unknown **DimA**	No.468 $Bm^{\mp5}s^{\mp5}$&$STV(Bm^{\mp5}s^{\mp5})$ Unknown DimA

Notice: $\beta = \frac{a^{-1}}{\lvert N_A\rvert\times 10^{-23}} = 22.780856999999,\ a = 1/137$,

$\lvert N_A\rvert = 6.014759519136\times 10^{23},\ \ \lvert G\rvert = 6.6745786383860966\times 10^{-11}$

$\sqrt{\lvert G\rvert} = 0.8169809445933299\times 10^{-5}$.

It should be specially pointed out that Element No.4 and Element No.76 are both unit nothingness, and No. 445-1 is unit information. They are not actually physical elements since physical interpretation to the rule of space-time configuration does not apply to them. They are included in the table simply because their expressions also conform to the rule of space-time configuration and the rule of space-time value.

10.3 Adjecent Relationship of Physical Elements

The Periodic Table of Physical Elements visually displays the physical relationships between adjacent physical elements, namely adjacent relationships of physical elements. There are four sorts of such adjacent relationships, m^+adjacent relationship, m^-adjacent relationship, s^+adjacent relationship, and s^-adjacent relationship.

▪ m^+ Adjacent relationship

An physical element increases by one spatial dimension compared to its adjacent physical elements. that is, the physical element interacts with an unit of one-dimensional space to generate another physical element. Such as (refer to the 1st periodic table and 5th periodic table).

*No.*23 momentum element $|G|m^4s^{-3}$ interacts with one dimensional space to generate *No.*24 angular moment element $|G|m^5s^{-3}$.

*No.*157 charge density element $\sqrt{|G|}m^0s^{-2}$ interacts with one dimensional space to generate *No.*158 electric field strength $\sqrt{|G|}m^1s^{-2}$.

*No.*16 mass element $|G|m^3s^{-2}$ interacts with one dimensional space to generate an *No.*17 unknown element $|G|m^4s^{-2}$.

*No.*151 magnetic flux density element $\sqrt{|G|}m^0s^{-1}$ interacts with one dimensional space to generate *No.*152 unknown element $\sqrt{|G|}m^1s^{-1}$.

▪ m^- Adjacent relationship

An physical element decreases by one spatial dimension compared to its adjacent physical elements. that is, the change rate of one-dimensional space to the physical element generates another physical element. Such as,

Change rate of one dimensional space to No.28 surface tension element $|G|m^3s^{-4}$ generates *No.*27 pressure element $|G|m^2s^{-4}$.

Change rate of one dimensional space to *No.*159 voltage element $\sqrt{|G|}m^2s^{-2}$ generates *No.*158 electric field strength element. $\sqrt{|G|}m^1s^{-2}$.

Change rate of one dimensional space to $No.16$ mass element $|G|m^3s^{-2}$ generates $No.15$ unknown element $|G|m^2s^{-2}$.

Change rate of one dimensional space to $No.153$ magnetic flux element $\sqrt{|G|}m^2s^{-1}$ generates $No.152$ unknown element $\sqrt{|G|}m^1s^{-1}$.

- s^+ Adjacent relationship

An physical element decreases by one temporal dimension compared to its adjacent physical elements. that is, the physical element interacts with an unit of one-dimensional time to generate another physical element. Such as,

$No.29$ force element $|G|m^4s^{-4}$ interacts with an unit of one dimensional time to generates $No.23$ momentum element $|G|m^4s^{-3}$.

$No.157$ charge density element $\sqrt{|G|}m^0s^{-2}$ interacts with an unit of one dimensional time to generates $No.151$ magnetic flux density element $\sqrt{|G|}m^0s^{-1}$.

$No.16$ mass element $|G|m^3s^{-2}$ interacts with an unit of one dimensional time to generates $No.10$ unknown element $|G|m^3s^{-1}$.

$No.158$ electric field element $\sqrt{|G|}m^1s^{-2}$ interacts with an unit of one dimensional time to generates $No.152$ unknown element $\sqrt{|G|}m^1s^{-1}$.

- s^-Adjacent relationship

An physical element increases by one temporal dimension compared to its adjacent physical elements. that is, the change rate of one-dimensional time to the physical element generates another physical element. Such as,

Change rate of one dimensional time to No.16 mass element $|G|m^3s^{-2}$ generates $No.22$ natural molar energy $|G|m^3s^{-3}$.

Change rate of one dimensional time to No.158 electric field strength $\sqrt{|G|}m^1s^{-2}$ generates $No.164$ current density $\sqrt{|G|}m^1s^{-3}$.

Change rate of one dimensional time to No.13 mass density element $|G|m^0s^{-2}$ generates $No.19$ unknown element $|G|m^0s^{-3}$.

Change rate of one dimensional time to No.165 magnetic field element $\sqrt{|G|}m^2s^{-3}$ generates $No.171$ unknown element $\sqrt{|G|}m^2s^{-4}$.

Postscript

From the perspective of the overall theoretical structure of physics, physical unit systems belong to its foundation that tend to sink deeper as physical theories are developing. The MS System lies at the very bottom of this foundational and has logical property of upward compatibility with those physical unit systems such as the SI, the centimeter-gram-second (CGS) unit system, and the Planck unit system.

The MS System is a theoretical result to logically expand and deepen the SI physical units system, It realizes perfect match of basic concepts of physics with the multi-dimensional space-time structure of physical quantities, and make basic concepts in physics smooth "landing" . In other words, the MS System deepens, expands and updates the logical foundation of physics. Given that the concept of multi-dimensional space-time structure covers a broader range of physical realities, the upper-level theories of physics built on the MS System will surely achieve physical descriptions to more extensive and essential physical realities in the universe as well as its laws of change. The new round of revolutionary movement of physics this time does not start with unconventional innovations in upper-level theories, but with changes in basic concepts of physics. As seen from the CST model[2], the logical deepening and expansion of basic physical concepts have already triggered drastic changes in upper-level physical theories.

Reference

[1] 物理学词典，徐龙道等编著，科学出版社，2004 年

[2] CST Model --- Physical Description to the Universe Created by the Natural God, 张志强 著，2025 年
https://www.ultra-physics.com/uphyshow/74.html

[3] NIST website
https://physics.nist.gov/cuu/Constants/index.html

[4] 百度百科 website
https://baike.baidu.com/