

# Energy Time Scale Theory

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## Abstract

*Time is the scale for the measurement of the various activities happening in the whole universe. Therefore, it also can be commented that, "Time is the scale for the measurement of the rate of the change of the energy from one form to another into its various states. That means the range of the various states of the energy starts from string and waves and reaches up to quantum particles, subatomic particles, atomic particles, molecular and compound particles, common physical objects, gigantic objects, super massive objects etc. Likewise, finally it can be expressed that, Time is directly proportional to the rate of the change of the various states of the energy and matter into their various positions. accordingly, it may finally be expressed that time is directly proportional to the rate at which these various states of energy and matter undergo transformation, rearrangement, relocation, and dynamic evolution within the universe. This reflects the principle that the more rapidly energy and matter shift between states, the more prominently time becomes expressed or perceptible. In essence, time emerges as a natural consequence of continuous change, acting as the underlying dimension that records, regulates, and relates all transitions in the cosmos. Thus, time can be viewed as an intrinsic measure of cosmic evolution, governing every interaction—from the smallest quantum fluctuations to the largest astronomical processes. It not only tracks change but also connects the physical phenomena across all scales, emphasizing that without change in energy or matter, the very perception of time would cease to exist.*

**Keywords:** Scale, energy waves, energy states, cosmic evolution, cosmos

## INTRODUCTION

Time represents relationships among various changes in the universe which are continuously going on either slow or fast. It doesn't matter whether these changes are related with each other or not.

But time interrelates them all. That means time represents relative changes among all the changes in the universe simultaneously. For egg. Every morning Sun rises in the East and sets into the west. For this complete rotation of the earth total 24 hrs spent, but other planets consume different time for their complete rotations also the rotations of the Sun and other celestial bodies consume different time. In case of the Black holes and neutron stars the speed of their rotations is fastest. Still time appears to be zero on the Black holes. This is because of the change of the time scale. That means different time scales are required for different energy super positions states. Likewise at sub atomic level, quantum levels, energy waves levels different time scales are required also. Because their relative changes (speeds) are varying critically.

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Received Date: November 15, 2025

Accepted Date: November 29, 2025

Published Date: December 10, 2025

**Citation:** Pankaj Kumar. Energy Time Scale Theory. International Journal of Universe. 2025; 1(2): 1–7p.

## A LITERAL REVIEW

Time dilation is described as the difference in elapsed time measured by two clocks, arising either from their relative velocity as explained by special relativity or from differences in their positions within a gravitational field as described in general relativity. When the term “time dilation” is mentioned without specification, it commonly refers to the velocity-dependent effect. Stephen

Hawkins proposed that the universe might be finite yet boundless, implying that it may have neither a true beginning nor an absolute end in time, but instead may simply exist with a limited quantity of matter and energy. According to the Hamiltonian principle, the total kinetic energy of a rigid body of mass  $M$  can be considered as the kinetic energy of a particle with mass  $M$  moving with the center of gravity of the body, combined with the kinetic energy associated with the motion relative to this same center of gravity.

**A-Time Dilation:** Time dilation is the difference in elapsed time as measured by the two clocks, either due to a relative velocity between them (special relativity) or between their locations (general relativity). When unspecified "TIME DILATION" usually refers to the effect due to velocity. **B-Stephen Hawkins:** The universe might be limit but bound less. In other words it may have no beginning nor ending in time but merely exist with a limit amount of matter and energy. **C-Hamiltonian Principal:** Total kinetic energy of a rigid body of mass  $M$  is the kinetic energy of a particle of mass  $M$  that moves with the centre of the gravity of the body plus the kinetic energy of the motion relative to the centre of the gravity of the body.

## METHODOLOGY

On considering time as scale it naturally concludes that Time is the rate of the change of the various states of the energy and its matter, actually time is the scale which measures the various positions of the energy and its various states. i.e. time is the scale for the energy and its change of the positions in which, "Time is directly proportional to the rate of the change of the various positions of the various states of the energy and its matter." Or 'T' directly proportional to Pr

Here "P" is the position of the energy and its various states, r= rates

If at the initial level the position of the energy is  $P_1$  and just after a moment it converts into  $P_2$ , then  

$$Pr = p_2 - p_1 / P_1$$

Now,

T directly proportional to Pr

Or.  $T = \overset{\sim}{\kappa} Pr$

Therefore,  $T = \overset{\sim}{\kappa} . (p_2 - p_1) / P_1$

If  $p_2 - p_1 = 1$

Then

$T = \overset{\sim}{\kappa} . 1 / 1$

Or.  $T = \overset{\sim}{\kappa}$

Here  $\overset{\sim}{\kappa}$  is the mobility constant of the energy.

Further

If there are various states of energy,

Then,

Positions of the energy =  $P_1, P_2, P_3, \dots, P_n$

Now time taken to reach the nth position of the energy,

$T = \overset{\sim}{\kappa} (p_n - p_1) / p_1$

$T = \overset{\sim}{\kappa} (n - 1)$

Similarly,

For P1,P2&p3 states.

$$\text{Time}=\frac{p_3-p_1}{P_1}$$

$$T = \frac{3-1}{1} = 2 \times \frac{1}{1}$$

Or  $T = 2 \times 1$

Or.  $T = 2 \times 1$

As at initial position time is zero, because if that at 3rd position time is equal to 2

As time is directly proportional to the rate of the change of the state (position) of the energy

Similarly the states of the products of the energy also follow the time scale but their rate of the change of the positions critically varies because of that their relative time scale also represents variations as follows:

- Time scale of the quantum particles. (prq)
- Time scale of the Sub atomic particles. (prs)
- Time scale of the normal physical bodies.(prn)
- Time scale of the giant physical bodies.(prg)
- Time scale of the super massive objects.(prm)

As,

$$\text{prq} > \text{prs} > \text{prn} > \text{prg} > \text{prm}$$

It is the decreasing order of the rates of the changed the positions of the various forms (state) of the energy. According to this order pre is the highest value while prm have lowest value.

Both of the above energy states have infinitely large differences.

i.e.

- pre=rate of the change of the position of the energy names.
- prq=rate of the change of the position of the quantum particles .
- prs=rate of the change of the position of the subatomic particles .
- prn=rate of the change of the position of the normal physical bodies.
- prg= rate of the change of the position of the giant physical bodies.
- prm=rate of the change of the position of the massive super massive bodies.

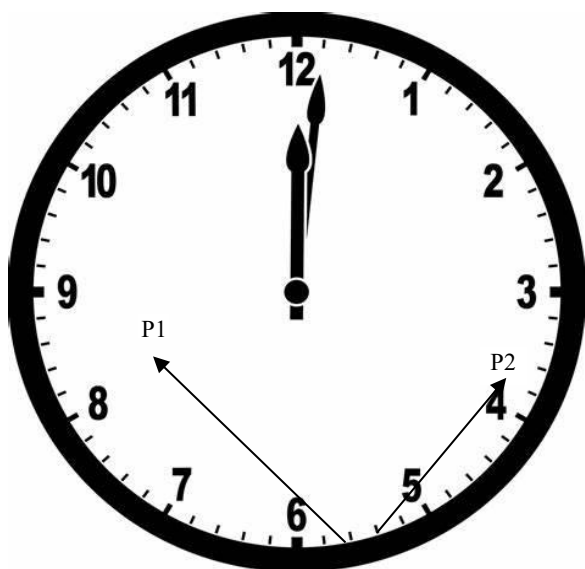
According to the above co-relations energy is always found in the wave or string forms. Quantum particles are behaving as a particle but for a very -very short moment the rest of the time they behave as waves (dual nature) sub atomic particles most often lay are in particle forms but also behave as waves but for a very short while. Normal physical bodies are even though made up of Atomic & molecular particles but they always remain in particle forms All the present physical, mathematical and chemical rules are made for these objects starting from atomic to molecular levels because of that these objects follow all physical, chemical and mathematical rules properly. Giant physical bodies like the Sun, moon, etc are somehow fixed like molecular objects (normal objects) hence these celestial bodies also follow common physical, chemical and mathematical rules. As according to the above discussion as the size of the energy bundles(packets) increases on their relative stability also increases on but as their size decreases their relative stability also decreases on This is because of the stable harmony of the energy spinning. Neutron stars and black holes like celestial bodies are super massive objects, their body composition is so strong that their rate of the change of the energy positions is infinitely small. Because of that they usually do not follow common physical, chemical and mathematical rules. As their rate of the change of the energy positions is infinitely small because of that their time appears to be zero. But

actually not zero. Mathematically as infinitely small= zero According to our common vision the time on the time on black holes appears to be zero but actually not zero. Similarly in the energy waves state the speed is so fastest that it is able to bound all the galaxies and universal objects together. Due to very fastest speed their rate of the change of the positions is also fastest, hence their affects are still not perceived so rapidly by our current technology.

Their gravity bounds largest celestial bodies/group of bodies (galaxies etc.) In case of the quantum particles their particular positions appear in a very short while hence quantum particles represent their dual nature. as well as wave nature also, because quantum particles are the primary entanglements of the energy spinning. The spinning nature of the energy waves is responsible for the primary entanglements as a result stretching conditions result gravity, mass, and force like initial physical positions. In this starting speedily spinning energy waves have entanglements for very short moments because these entanglements are due to spinning nature of the energy waves. As a result quantum boson particles appear very shortly. As the rates of the changes of the various positions of the energy are waves are varying because of that their mobility constants also vary. As a result in various states of the matter/energy the rate (scale) of the time also changes. According to the above discussion, AS amount of the energy waves combination enlarges (from waves to giant bodies) then the rates of the change of the positions decrease (from quantum to supper giants like black holes) but as the size of the energy combinations is decreases (from black holes to quantum levels) the rates of the changes of the positions increases! This increase or decrease in the rates of the changes of the various positions of the energy and its various states (including states of the matter) also varies the time scale.

"Because of that larger objects appear more stable than smaller size objects." It is only relative perception that actually all the objects in the state of the matter are made up of the energy are continuously changing their relative positions due to waves nature but due to harmonic nature these energy waves have regular entanglements. In the initial stages of the energy waves and its spins the entanglements are most probably not regular but as the amount of the energy spins increases the regularity of the energy entanglements also increases as a result heavier objects appear more stable than smaller objects. Energy entanglement at the initial level is the smallest activity in the whole universe hence it's speed is fastest in the universe, therefore the time is also fastest at energy level.

Energy entanglement results wave clustering this wave clustering feels pull or push like effects that affect is known as gravity. Gravity is the very first by product of the energy entanglements which provides platform to the formation of the rest energy states like matter and mass [1-5].



**Figure 1.** Common clock.

In a common clock, if needle n1 is at point P1 and needle n2 is at point P2, during this shifting time spent is "T" then,

$$T_e = \frac{P_2 - P_1}{P_1}$$

$$= \frac{2-1}{1}$$

$$T = 1$$

according to the clock on earth if only one second is spent hence,

$$1 = 1 \quad (1 \sim 0m)$$

This is the mobility constant of the time on earth.

Like wise,

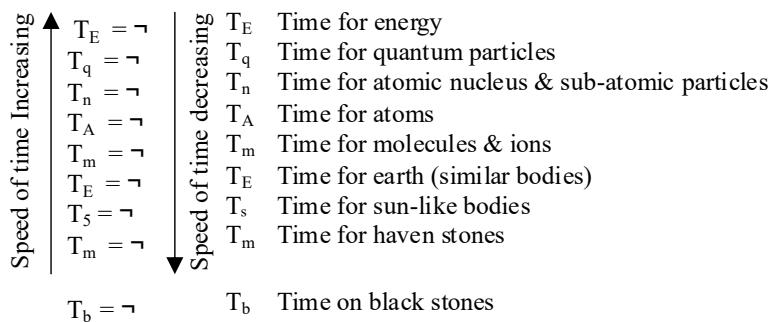


Figure 2. States of the matter and energy

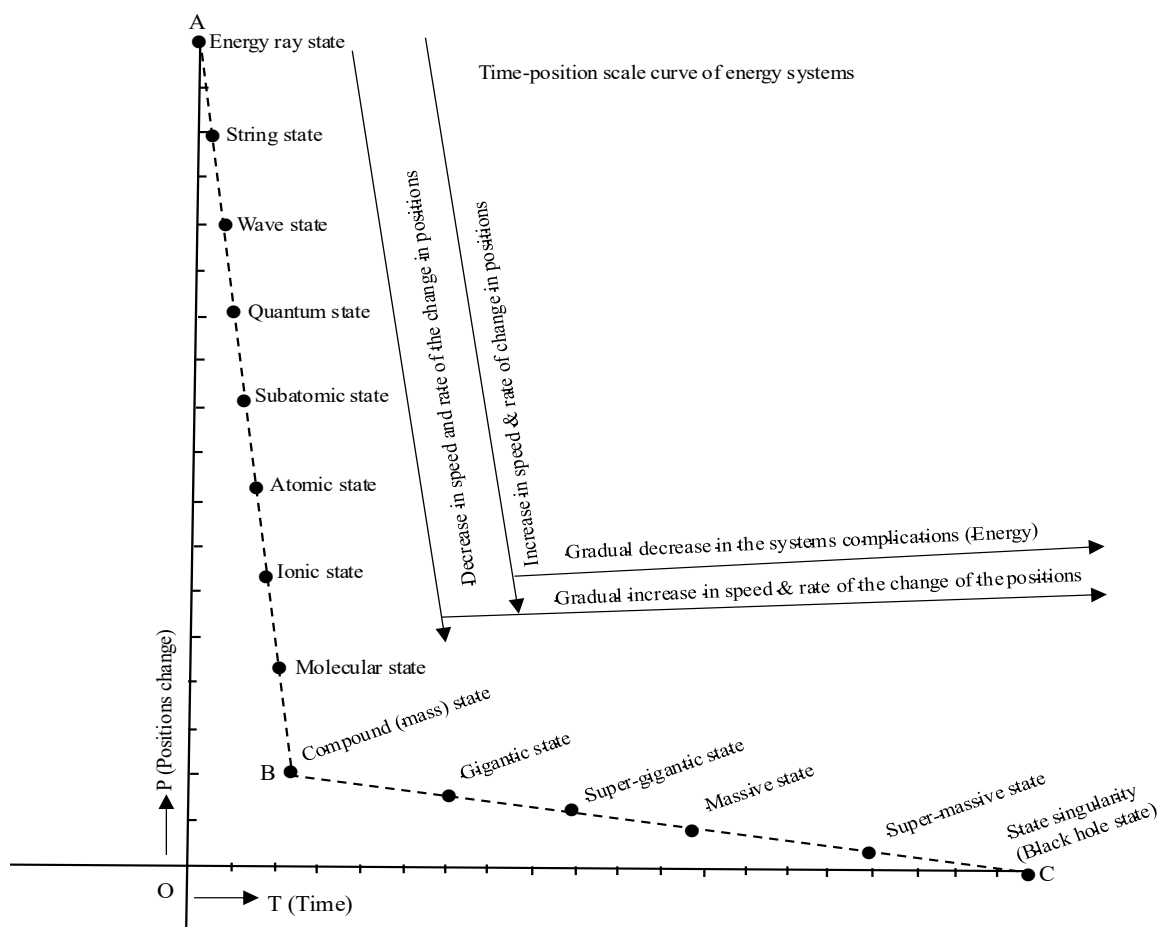


Figure 3. Time position energy scale curve.

Now the same way if We study the rate of the change of the quantum particles which spent only a few nano seconds from one position to another Then,

$$T_n = \frac{1}{c} \sim 1 \text{ nano second}$$

On following above examples of the relative mobility constants of the all the states of the matter and energy can be obtained. Figure 1

During graphical presentation of the energy and mass states on the time and property parameters some peculiar features are obtained as the speed of the energy is infinite at its fundamental (ray) state. It decreases on approaching towards mass states and again increases on approaching towards super massive states from mass states. Same way the complications of the energy systems increase from energy ray states to mass states and decreases from mass states to super massive states.

This analysis is facilitating to find out basic reasons for major differences among all the states of the energy and the mass. When two parameters time and position are correlated with graphical presentations it is observed that energy at its fundamental state changes its positions with highest speed and lowest duration of the time is required but when mass like states then its rate of the change of the positions decreases but again increases from mass state to super massive states.

As a result the rate of the change of the various positions decreases from A to B (on time scale graph) and again increases from B to C. Same way at point A the value of the time is infinitely small because the rate of the change of the various positions is highest the value of the time increase from A to B because the rate of the change of the positions decreases again from point B to C rate of the change of the positions decreases on as a result time becomes infinitely large as appear to be stable at black holes state but actually not stable. Because the rate of the change of the position is infinitely small (slow) therefore time becomes as enlarged as stable. Figure 2 and 3 All neutron stars, white dwarfs like giant bodies also follow same situations approximately as black holes. According to the time energy scale curve as the complexity of the energy and its various systems increases the speed decreases 'energy ray state' is the simplest state of the energy which has the highest speed (approximately infinite) in universe as move on towards mass states the complexity of the systems increases as a result speed of these systems decreases, again from mass state to super massive states the complexity of the systems decreases then speed of the energy systems also increases. As a result black holes are the fastest moving mass like objects in the universe. Mass state bodies have the most complexity in their composition systems Hence have the lowest speed while black holes are singular integrated systems of the energy because of that they have the highest speed of rotations [6-8].

## A REPORT AND DISCUSSION OF RESULT

According to the above description of the methodology it may be easily cleared that:

- i. Time scale is the relative fundamental quantity which is basically derivative.
- ii. Being derivative at various stages of the energy and matter, the scale of the time shifts itself, which can be considered as the time dilation as variations in the mobility constant.
- iii. Time interrelates various activities of the energy and its matter.
- iv. During various activities of the energy and the matter, the rate of the change of the positions varies at various stages which results in time dilation.
- v. As a result, all physical and chemical rules are not applicable at different stages of the energy and matter as energy waves state, quantum state, sub-atomic state, atomic state, common physical state, gigantic objects state, super-massive states etc. In all the above states, all physical, chemical, mathematical parameters are not common. This uncommon condition can be termed as "*State Differentia*." This state differentia is the condition for various stages of the energy and its matter which differentiates all physical, chemical, mathematical parameters along with the time parameters also [9, 10].

## CONCLUSIONS

With the help of this “Time–Energy” correlation, various stages of energy and its matter—such as energy waves, quantum state, sub-atomic state, atomic state, and super-massive state—can be studied properly, and their differences can be observed very clearly. All the activities of energy, including gravity, magnetic nature, electric nature, constructive and destructive properties of energy and matter, mobility, stability, singularity, and many others, can also be studied and explained effectively. The fundamental nature of energy and quantum particles, along with their physical and chemical properties, summation of behaviors, and singularity, can be analyzed systematically. Furthermore, the secrets of the universe’s formation and destruction, the processes of matter formation and distribution, and the reasons behind property changes at various stages can also be examined thoroughly through this approach.

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