Contemporary physical theories Vs. The concept proposed in the book 'MATTER (Re-examined)'.

(For simplicity, descriptions of contemporary physical terms, etc. are quoted from sources on internet)

Phenomena	Contemporary physics	This concept
Assumptions	There are numerous assumptions in contemporary physics, many of them which when taken together contradict themselves.	There is only one assumption and it is "substance is fundamental and matter provides substance to all real entities".
Space	Space is one of the fundamental (imaginary) concepts, which in simple terms means the boundless three-dimensional extent in which objects and events have relative position and direction. As it is an imaginary entity, it has neither constituents nor structure nor form.	Space is an imaginary boundless container, envisaged by rational beings, whenever they think of material objects. It becomes real only when it is filled entirely by a real entity. Universal medium, structured by quanta of matter fills the entire space (outside the most basic 3D matter-particles) and thus provide space with physical reality.
Outer space	The expanse that exists beyond the Earth and between celestial bodies.	
Fundamental quantity	Functional scalar quantities, like: time, length, mass, and charge.	Matter is the only real fundamental quantity.
Dimension	Dimension of an object is informally defined as the minimum number of coordinates needed to specify any point within it.	Division of space that helps to specify absolute location or relative positions of an object/point.
Size	Size is the magnitude or dimensions of a thing. Size can be measured as length, width, height, diameter, perimeter, area, volume, or mass.	Magnitude in defined spatial measurement scale.
Aether	Hypothetical medium for transmitting radiation and filling all unoccupied space. It is also called 'luminiferous ether'.	Imaginary and structure-less aether is replaced by real universal medium, structured by matter.
Aether drag	The *aether drag* hypothesis dealt with the question of whether or not the luminiferous *aether* is *dragged* by or entrained within moving matter.	As every 3D matter-particle is moved by transfer of structural distortions in universal medium, there is no relative displacement between a 3D matter-body and universal medium in its immediate surroundings. There is no possibility of drag on a moving 3D matter-body.
Universal medium	Different types of imaginary aether that fills unoccupied space.	A real entity that fills the entire space outside the most basic 3D matter-particles and it is structured by quanta of matter.
Absolute reference	Hypothetical frame identified as the frame of reference with the origin at the center of mass of system of fixed stars is called the "Absolute Frame". In this frame Ether- the hypothetical medium of propagation of Electro- magnetic light waves must also be at rest.	Since the universal medium fills the entire space, outside the most basic 3D matter-particles and it is more or less steady, it can provide an absolute reference frame.
Substance	Real physical matter of which a body consists and which has a tangible, presence in space.	Substance provides all real entities with objective reality and positive existence in space.
Reality	Reality is the totality of a system, known and unknown.	Existence of matter and everything related to material objects provide reality.
Quantum reality	Reality is what you choose it to be.	Reality depends only on presence of matter and its interactions.
Real entity	Something that has a real existence; especially when considered as distinct, independent, or self-contained.	An entity that has objective reality and positive existence in space.
Functional entity	Functional entities are active resources in the sense that they can perform actions (or services) on request.	Functional entities are imaginary entities, which fulfill all functions assigned to them by rational beings.

Quantum	In physics, a quantum is the minimum amount of any physic (physical property) involved in an interaction.al entity	A quantum of matter is the smallest matter-particle with tendency to reduce its existence into minimum spatial dimensions. Different quanta of matter may have different matter-content.
Matter	Any substance that has mass and takes up space by having volume and any particles (or combination of particles) that act as if they have both rest mass and volume.	Matter provides substance to all real entities. Real entities (and hence matter) may exist in one, two or three spatial dimensional states.
Creation of 3D matter	In a wider sense, one can use the word matter simply to refer to fermions. In this sense, matter and antimatter particles (such as an electron and a positron) are a priori identified. The process inverse to particle annihilation can be called matter creation; more precisely, we are considering here the process obtained under time reversal of the	Universal medium gathers, compresses and molds free quanta of matter, available within gaps in its structure, to create 3D matter-cores of most basic 3D matter-particles, which spin about one of their diameters. They are then sustained and moved at the highest possible linear speeds. Movements of 3D matter-core are accomplished by transfer of structural distortions in universal medium. 3D matter-core and structural distortions in surrounding universal medium, together, form a corpuscle of radiation (photon). Photons, in various formations form all other superior 3D matter-bodies.
Ground state of matter	The ground state of a quantum- mechanical system is its lowest-energy state.	Ground state of a material body is its highest 3D matter-content level, achieved when external pressure on it is least.
Antimatter	Antimatter is matter which is composed of the antiparticles (or "partners") of the corresponding particles of 'ordinary' matter.	All superior 3D matter-particles are formed by photons and their integrity depend on critical linear and spin speeds of constituent photons. Relative directions of spin and linear motions of constituent photons determine characteristic properties of a body. If constituent photons in two 3D matter-bodies come in contact such that their linear and spin motions are in opposite directions, all of them stop moving and disintegrate. This is annihilation of matter and antimatter. These 3D matter-bodies are anti to each other. About 50% of all inferior 3D matter-particles are anti to the other 50%.
Dark matter	Dark matter is a form of matter thought to account for approximately 85% of the matter in the universe and about a quarter of its total energy density. Its presence is implied in a variety of astrophysical observations, including gravitational effects that cannot be explained by accepted theories of gravity unless more matter is present than can be seen.	Apparent galactic rotation anomaly necessitated additional matter in a galaxy to sustain observed spin speed. Since no additional matter could be observed, imaginary dark matter was invented to provide suitable explanation to galactic rotation anomaly. As dark matter is not defined, it is assigned different meanings in different theories.
Mass	Mass is a property of a physical body that indicates the measure of its resistance to a change in its state of motion, when a net force is applied.	Mass is a mathematical relation between an external effort on a body and change in 3D matter-body's state of motion. It is often used to represent equivalent of body's 3D matter-content. Differentiation depends on body's state.
Rest mass	Rest mass or invariant mass is an invariant quantity which is the same for all observers in all reference frames	
Relativistic mass	Relativistic mass is the sum total quantity of energy in a body or system (divided by c^2). It is dependent on the velocity of observer.	
Inertial mass	Is an object's resistance to being accelerated by a force.	
Active gravitat-ional mass	Is the gravitational force exerted by an object.	
Passive gravit-ational mass	Is the gravitational force exerted on an object in a known gravitational field.	
Mass-less particles	A massless particle is an elementary particle whose invariant mass is zero.	Since mass is a relation between external force and acceleration of a body, any particle will be mass-less as long as no external effort acts on it.
Time	Time is a scalar fundamental quantity and is usually described as a quantity. It is what a clock reads.	A functional entity, originated from cause and effect relation.

Spacetime continuum	Spacetime is any mathematical model which fuses the three spatial dimensions and one dimension of time into a single four-dimensional manifold called a continuum.	A functional product that facilitates mathematical analyses.
Time dilation	Time dilation is a difference in the elapsed time measured by two clocks, either due to their relative velocity, or by there being a gravitational potential difference between their locations.	Time dilation is the difference in time, measured by using same length-scale measurements in regions of universal medium with different structural distortion-densities.
Fabric of spacetime	Pretended structure of imaginary spacetime that has neither form nor composition.	Latticework structures of 2D energy-fields (in each of all possible planes), which together constitute universal medium.
Arrow of time	Arrow of time is the concept positing the "one-way direction" or "asymmetry" of time.	Imaginary concept developed from the fact that the effect always follows the cause.
Spacetime dimensions	Spacetime is any mathematical model which fuses the three dimensions of space and the one dimension of time into a single four-dimensional.	Spatial dimensions are convenient assumptions to relate two or more points in space. They measure expanse of universal medium. Time is a functional entity, evolved from cause and effect relation.
Time travel	Time travel is the concept of movement between certain points in time, analogous to movement between different points in space by an object or a person, typically with the use of a hypothetical device known as a time machine.	Mere imagination.
Length contraction	Length contraction is the phenomenon that a moving object's length is measured to be shorter than its length as measured in the object's own rest frame.	Due to distortions of latticework structures of universal medium, in and about a moving body, its length decreases along and girth increases across direction of its motion.
Entropy	A functional entity that requires a particular direction for time, sometimes called an arrow of time.	Denotes changes in work-density in and about a 3D matter-body.
Nature of action	Action at a distance through empty space.	All actions are through and by universal medium, which acts as an intermediary. All actions are of push-nature.
Work	Work is the mathematical relation (product) of force and displacement. It is beleived to transfer energy from one place to another, or from one form to another.	Structural distortions in universal medium.
Effort	*Effort* is the amount of work units required to complete any given task.	Effort is the (amount of) work required to produce force.
Force	Force is any interaction that, when unopposed, will change the motion of an object..	Force is the mathematical relation between external effort and change in the state of a body.
Thrust	Force that increases the velocity of an object.	
Drag	Force that decreases the velocity of an object	
Pressure	Distribution of many small forces applied over an area of a body.	
Torque	Force that produces changes in rotational speed of an object	
Energy	Energy is the quantitative property that must be transferred to an object in order to perform work on, or to heat, the object. It is a functional entity that has neither form nor structure. Energy fulfills all functions assigned to it by rational beings. Currently energy is used as cause of any action, where no logical cause is obvious.	Energy is the stress developed in universal medium due to strain in its structure. It appears as shadow of work. It is quantified in terms of units of work.
Intrinsic energy	Internal energy of a system is the energy contained within the system. It is the energy necessary to create or prepare the system in any given state, but does not include the kinetic energy of motion of the system as a whole, nor the potential energy of the system as a whole due to external force fields which includes the energy of displacement of the system's surroundings. It keeps account of the gains and losses of energy of the system that are due to changes in its internal state.	Intrinsic work (energy) in and about a body is the work required for creation and sustenance of its constituent 3D matter-particles and the work required to maintain integrity of the body as a whole.
Kinetic energy	Kinetic energy of an object is the energy that it possesses due to its motion.	Additional work (distortions in universal medium) invested in and about a body to sustain its state of motion.

Potential energy	Potential energy is the energy held by an object because of its position relative to other objects, stresses within itself, its electric charge, or other factors.	Additional work (distortions in universal medium) invested in and about a body to overcome incessant work being invested in and about the body by another source to maintain distance between them constant.
Dark energy	Dark energy is an unknown form of energy that affects the universe on the largest scales.	Dark energy is an assumed property of empty space, required to validate the assumption of cosmic inflation at accelerating pace. Since universe is of steady state, assumption of dark energy is superfluous.
Law of conservation of energy	States that the total energy of an isolated system remains constant.	Total work, associated with a body, remains constant unless work is added to it or removed from it.
Mass–energy equivalence	The principle that anything having mass has an equivalent amount of energy and vice versa.	Mass and energy are functional entities. With sufficient deliberations, any relation between functional entities can be established.
Natural forces	Natural forces are fundamental interactions (any of the four basic forces—gravitational, electromagnetic, strong, and weak) that govern how objects or particles interact and how certain particles decay.	Gravitation is the only one natural effort (force) in the universe.
Fundamental force	Fundamental interactions, also known as fundamental forces, are the interactions that do not appear to be reducible to more basic interactions. There are four fundamental interactions known to exist - the gravitational and electromagnetic interactions, and the strong and weak interactions, which govern nuclear interactions.	Fundamental efforts – gravitational attraction, electromagnetic efforts and nuclear efforts are different manifestations of gravitation.
Inertia	A body's tendency to resist acceleration.	Process of stabilizing additional work, introduced in and about a body.
Inertial force	Any *force* invoked by an observer to maintain the validity of Isaac Newton's second law of motion in a reference frame that is rotating or otherwise accelerating at a constant rate.	Any effort that invokes property of inertia about a body.
Fictitious force	Is a force that appears to act on a mass whose motion is described using a non-inertial frame of reference, such as an accelerating or rotating reference frame.	An apparent effort that seems to produce an action.
Centripetal force	*Centripetal force* is a *force* that makes a body follow a curved path. Its direction is always orthogonal to the motion of the body and towards the fixed point of the instantaneous center of curvature of the path.	It is an external effort that helps a body to move in curved path by restricting its outward displacement from instantaneous center of curved path.
Centrifugal force	C*entrifugal force* is a fictitious *force* that appears to act on all objects when viewed in a rotating frame of reference. It is directed away from an axis passing through the coordinate system's origin and parallel to the axis of rotation.	An imaginary effort that appears to displace a body, outward from its curved path. Outward displacement of the body is caused by outward deflection of direction of its motion.
Moment of inertia	Quantified tendency of a body to resist angular acceleration about its rotational axis.	Process of stabilizing work in and about a body, introduced about its rotational axis.
(Linear) momentum	Mathematical relation (product) between mass and velocity of an object.	Mathematical relation (product) between 3D matter-content and (linear) velocity of an object.
Angular momentum	The quantity of rotation of a body, which is the product of its moment of inertia and its angular velocity about its rotational axis.	Mathematical relation (product) between 3D matter-content and angular velocity of an object.
Gravitation	Tendency of a body to move, towards centre of gravity of another body.	Pressure on 3D matter-particles due to internal pressure of surrounding universal medium.
Gravitational wave	Gravitational waves are disturbances in the curvature of spacetime, generated by accelerated masses, that propagates as waves outward from their source at the speed of light.	Transmission of intense structural distortions in universal medium, brought about by violent physical actions in a region.
Gravitational force	A force attributed to the curvature of spacetime.	Effort due to structural compression of universal medium on 3D matter-particles.

Gravitational attraction (Gravity)	The universal force of attraction acting between all matter. Gravity is the weakest of the four fundamental interactions of physics.	An apparent tendency of two 3D matter-bodies to move towards each other under greater gravitational pressure on their outer sides. Gravity is between each of the most basic 3D matter-particles in one body and each of the most basic 3D matter-particles in another body. Magnitude of gravity is governed by relative orientations of these 3D matter-particles.
Gravitational repulsion	Anti-gravity is a hypothetical phenomenon of creating a place or object that is free from the force of gravity. It does not refer to the lack of weight under gravity experienced in free fall or orbit, or to balancing the force of gravity with some other force, such as electromagnetism or aerodynamic lift.	Gravitation is pressure applied by universal medium on a 3D matter-particle. Due to its structure, universal medium applies positive pressure on convex surfaces, negative pressure on concave surfaces and no pressure on plane (straight) surfaces of 3D matter-particles. Positive pressures on 3D matter-particles cause gravitational attraction and negative pressures on 3D matter-particles cause gravitational repulsion.
Newton's Law of universal gravitation	Every particle attracts every other particle in the universe with a force which is directly proportional to the product of their masses and inversely proportional to the square of the distance between their centers.	Depending on their relative orientations, every photon in a body experiences apparent gravitational attraction towards each of the photons in another body.
Graviton	Graviton is the hypothetical quantum of gravity, an elementary particle that mediates the force of gravity.	An imaginary entity.
Newton's Laws of motion	They relate an object's motion to the forces acting on it.	An object's motion depends on nature and magnitude of additional work invested in universal medium in and about the object.
Newton's 1st Law of motion	An object either remains at rest or continues to move at a constant velocity, unless acted upon by a force.	No 3D matter-particle can remain at rest. However, state of motion of a superior 3D matter-body depends on nature and magnitude of additional work invested in universal medium in and about it.
Newton's 2nd Law of motion	The force on an object is equal to its mass times its acceleration.	This is a mathematical relation between two functional entities.
Newton's 3rd Law of motion	When two objects interact, they apply forces to each other of equal magnitude and opposite direction.	During transfer of work in an action, work gained about one body is equal to work lost about the other body.
Laws of thermodynamics	Define physical quantities, such as temperature, energy, and entropy, that characterize thermodynamic systems at thermodynamic equilibrium.	Deals with 3D matter-content level, associated work and changes in them.
Zeroth law of thermodynamics	If two systems are each in thermal equilibrium with a third system, they are in thermal equilibrium with each other.	All systems, whose 3D matter-content levels are identical, are in thermal equilibrium with each other.
First law of thermodynamics:	When energy passes, as work, as heat, or with matter, into or out of a system, the system's internal energy changes in accord with the law of conservation of energy.	When additional work is transferred in or out of system, total additional work is conserved.
Second law of thermodynamics	In a natural thermodynamic process, the sum of the entropies of the interacting thermodynamic systems increases. Total entropy of an isolated system can never decrease over time, and is constant if and only if all processes are reversible.	Increasing total 3D matter-content of a system reduces 3D matter-content level of the system.
Third law of thermodynamics:	The entropy of a system approaches a constant value as the temperature approaches absolute zero.	As 3D matter-content level of a system reaches highest possible value, it is indicated by absolute zero temperature.
Heat / Heating Cool / Cooling	Heat is energy in transfer to or from a thermodynamic system, by mechanisms other than thermodynamic work or transfer of matter. Process of the same.	Heat/heating is a process of reducing 3D matter-content level of a body. Cool/cooling is a process of increasing 3D matter-content level of a body.
Law of causality	An effect cannot occur before its cause.	An effect cannot occur before its cause and without a medium and a mechanism of action.
Vacuum	Vacuum is space devoid of matter.	Vacuum is space devoid of 3D matter but filled with matter in lower spatial dimensions.

Corpuscular theory of light	States that light is made up of small discrete particles called "corpuscles" (little particles) which travel in a straight line with a finite velocity and possess impetus.	Light is continuous flow of photons (corpuscles of radiation) through the universal medium.
Corpuscle of radiation	Small discrete particles of radiation.	Corpuscles of radiation (photons) are the most basic 3D matter-particles.
Nature of light	Light is a transverse, electromagnetic radiation (wave) that can be perceived by human eye. Like all electromagnetic waves, light can travel through a vacuum.	Light is continuous flow of photons. Photons are moved by and through universal medium. Each photon has particle-nature as well as wave-nature.
Photon	P*hoton* is a type of elementary particle that is a quantum of the electromagnetic field including electromagnetic radiation. It is the force carrier for the electromagnetic force. *Photons* have zero mass, and they always move at the speed of light in vacuum.	Photon is the most basic 3D matter-particle. Each photon has a disc-shaped 3D matter-core that spins about one of its diameters and an inertial pocket, formed by structural distortions in surrounding universal medium, which maintains photon's stability and critical constant linear and spin speeds.
Dual nature of photon	Wave–particle duality is the concept in quantum mechanics that every particle or quantum entity may be described as either a	3D matter-core of a photon provides its particle-nature and inertial pocket about the 3D matter-core provides its wave-nature in each plane.
Linear speed of light	The speed of light in vacuum is a universal physical constant. Its exact value is defined as meters per second. Though this speed 299792458 is most commonly associated with light, it is also the speed at which all massless particles and field perturbations travel in vacuum.	A photon moves through universal medium at the highest possible (hence constant) linear speed with respect to universal medium. Attempt to change its linear speed is countered by variation in its 3D matter-content (frequency).
Variable speed of light	Variable speed of light is a feature of a family of hypotheses stating that the speed of light in vacuum, usually denoted by *c*, may in some way not be constant, e.g. varying in space or time, or depending on frequency.	As linear speed of light is with respect to structural distortion-density in surrounding universal medium; speed of light checked with measuring scale calibrated in a different region of universal medium, may show a variation.
Frequency of photon	A photon is a form of electromagnetic radiation usually symbolized by photon energy, hf, where h is Planck constant and f is the photon's frequency.	Disc-shaped 3D matter-core of a photon rotates about one of its diameters at spin-speed (frequency) proportional to its 3D matter-content.
Red shift	In physics, *redshift* is a phenomenon where electromagnetic radiation (such as light) from an object undergoes an increase in wavelength.	Due to asymmetry of its 3D matter-distribution, photon's 3D matter-core gradually loses 3D matter-content during travel through long distance or due to external effort to decelerate its linear motion. Reduction of 3D matter-content reduces its frequency.
Blue shift	In physics, blue*shift* is a phenomenon where electromagnetic radiation (such as light) from an object undergoes a reduction in wavelength.	During attempt by external effort to accelerate a photon, its 3D matter-core assimilates quanta of matter from surrounding universal medium to increase its frequency, so as to sustain its linear speed at critical level.
Einstein shift	Shift of wavelength of a photon to longer wavelength, when observed from a point at a higher gravitational potential.	Apparent change in frequency of photons due to observer and photons being in regions of the universal medium with different distortion-densities.
Radiation	Radiation is the emission or transmission of energy in the form of waves or particles through space or through a material medium. This includes: electromagnetic radiation, such as radio waves, microwaves, infrared, visible light, ultraviolet, x-rays, and gamma radiation.	Continuous flow of photons' 3D matter-cores is the radiation of 3D matter. Continuous transmission of cyclic structural distortions in universal medium is radiation of electromagnetic waves. Transmission of photons combines both of these.
Radiation of 3D matter	Radiation is energy given off by matter in the form of rays or high-speed particles. Radiation in the form is known as particle radiation. It is tiny fast-moving particles that have both energy and mass (weight).	Continuous flow of photons is the radiation of 3D matter. Depending on photons' frequency it may be classified into heat waves, light, x rays, gamma rays, neutrinos, etc.

Radiation of EM waves	Electromagnetic radiation refers to the waves of the electromagnetic field, propagating through space, carrying electromagnetic radiant energy. It includes radio waves, microwaves, infrared, light, ultraviolet, X-rays.	Continuous transmission of cyclic structural distortions in universal medium is radiation of electromagnetic waves. These include transmission of electromagnetic fields, radio waves, micro waves, etc.
Refraction of light	Refraction is the change in direction of a wave passing from one medium to another or from a gradual change in the medium.	Refraction of light is the result of mechanical turning of 3D matter-core of photon during its travel through parts of optical media (regions of universal medium) with different structural distortion-densities.
Diffraction of light	Diffraction refers to various phenomena that occur when a wave encounters an obstacle or a slit. It is defined as the bending of waves around the corners of an obstacle or through an aperture into the region of geometrical shadow of the obstacle / aperture.	Diffraction of light is combination of reflection, gravitational attraction and refraction of its corpuscles (photons) due to presence of large 3D matter-body near their passage.
Emission spectrum	The *emission spectrum* of a chemical element or chemical compound is the *spectrum* of frequencies of electromagnetic radiation emitted due to an atom or molecule making a transition from a high energy state to a lower energy state.	Typical groups of photons, radiated during changes in 3D matter-content level (temperature) of a chemical element.
Absorption spectrum	A material's absorption spectrum is the fraction of incident radiation absorbed by the material over a range of frequencies.	Typical groups of photons scattered during changes in 3D matter-content level (temperature) of a chemical element.
Olbers Paradox	*Olbers*' *paradox* is the argument that the darkness of the night sky conflicts with the assumption of an infinite and eternal static universe.	Photons, during their travel gradually lose 3D matter-content and die, when whole of its 3D matter-contents are lost. Hence we are unable to see light from farther than limited distance.
Fluorescence	Fluorescence is the emission of light by a substance that has absorbed light or other electromagnetic radiation. It is a form of luminescence. In most cases, the emitted light has a longer wavelength, and therefore lower energy, than the absorbed radiation.	A ray of light, entering deeper into a macro body, may undergo multiple reflections and scatter in various directions from macro body. Reflected ray appears after a long delay and continues for a long time after incident ray is terminated. Frequency of reflected ray of light may be different. This phenomenon is 'phosphorescence'. In principle, there is no difference between phenomena of fluorescence and phosphorescence**.**
Phospherence	*Phosphorescence* is a type of photoluminescence related to fluorescence. Unlike fluorescence, a *phosphorescent* material does not immediately re-emit the radiation it absorbs. The slower time scales of the re-emission are associated with "forbidden" energy state transitions in quantum mechanics.	
Standard Model	Is the theory describing three of the four known fundamental forces (electromagnetic, weak, and strong interactions, and not including the gravitational force) in the universe, as well as classifying all known elementary particles.	Fundamental efforts are considered as different manifestations of gravitation. Elementary and superior 3D matter-particles are developed step by step from quanta of matter.
Beyond the Standard Model	Beyond the Standard Model refers to the theoretical developments needed to explain the deficiencies of the Standard Model.	Attempts to explain mathematical inconsistencies in contemporary physical theories.
Special relativity theory	Special relativity applies to all physical phenomena in the absence of gravity.	Gravity (gravitational attraction) is an apparent force. It is not real.
General relativity	Provides a unified description of gravity as a geometric property of space and time, or spacetime.	Gravity (gravitational attraction) is an apparent phenomenon and space and time are functional entities.
General relativity theory	General relativity explains the law of gravitation and its relation to other forces of nature.	Gravitation is a property of universal medium and all efforts in nature are derived from gravitation.

Universe	The universe is all of space and time and their contents, including planets, stars, galaxies, and all other forms of matter and energy.	Entire space and matter-bodies in it. It is unlimited and perpetual. However, as far as any observer is concerned, its existence is limited equally on all sides from the point of observation.
Size of universe	Is currently estimated to be 93 billion light-years in diameter.	Universe extends infinitely in all directions from the observer.
Infinitely recurring cyclic model of universe	A cyclic model (or oscillating model) is any of several cosmological models in which the universe follows infinite, or indefinite, self-sustaining cycles.	Universe is of steady state with occasional and cyclic destruction and rebuilding of its parts in different regions.
Galaxy	A *galaxy* is a gravitationally bound system of stars, stellar remnants, interstellar gas, dust, and dark matter.	Very large rotating group of 3D matter-bodies about a static central black hole.
Galactic Halo	A galactic halo is an extended, roughly spherical component of a galaxy which extends beyond the main, visible component.	Galactic halo is an extended region from outer fringes of rotating (roughly) disc-shaped galaxy, comprised of primary 3D matter-particles. Galactic halos keep neighboring stable galaxies at critical distances from each other.
Big bang theory	14 billion years ago the universe began with a massive expansion event from a single point, encompassing all of the universe's matter. That original movement continues today, as the universe keeps expanding outward.	Universe is perpetual and is of steady state with cyclic destruction and rebirth of different regions.
Cosmic inflation	Cosmic inflation is a theory of exponential expansion of space in the early universe.	An imaginary concept required to explain reduction in frequency of light from farther regions.
Hubble's Law of Cosmic Expansion	Hubble's law, an equation that states: velocity = H × distance	Since the universe is of steady state, this law is redundant.
Black hole	A black hole is a region of spacetime where gravity is so strong that nothing—no particles or even electromagnetic radiation such as light—can escape from it.	Except for its very huge 3D matter-content, a black hole is like any other macro body. Due to its very large 3D matter-content, no information is available from the region of its space.
Binary black hole	A *binary black hole* is a system consisting of two *black holes* in close orbit around each other.	As stable black holes are stationary in space, binary black hole is an imaginary phenomenon.
Black hole radiation	Black-body radiation that is predicted to be released by black holes, due to quantum effects near the black hole event horizon.	Radiation from a black hole is similar to radiation from other very large macro bodies - due to its gravitational collapse.
Quasars	A quasar is an extremely luminous active galactic nucleus, in which a supermassive black hole with mass ranging from millions to billions of times the mass of the Sun is surrounded by a gaseous accretion disk.	.
Magnetar	A magnetar is a type of neutron star believed to have an extremely powerful magnetic field.	Different stages in the life-cycle of black hole.
Neutron star	A *neutron star* is the collapsed core of a giant star which before collapse had a total mass of between 10 and 29 solar masses. *Neutron stars* are the smallest and densest *stars*, excluding black holes and hypothetical white holes, quark *stars*, and strange *stars*	
Pulsar	A pulsar is a highly magnetized rotating neutron star that emits beams of electromagnetic radiation out of its magnetic poles. This radiation can be observed only when a beam of emission is pointing toward Earth and is responsible for the pulsed appearance of emission.	
Supernovae	A *supernova* is a powerful and luminous stellar explosion.	Final stage in the life of a black hole or similar macro bodies.
Planetary systems	A planetary system is a set of gravitationally bound non-stellar objects in or out of orbit around a star or star system.	A planetary system is a group of independent macro bodies, moving along a common direction, while influencing each other under mutual gravitational attraction to modify their individual paths about mean path of the largest body in the group.

Nebular hypothesis	The formation and evolution of the Solar system began 4.5 billion years ago with the gravitational collapse of a small part of a giant molecular cloud. Most of the collapsing mass collected in the center, forming the Sun, while the rest flattened into a protoplanetary disk out of which the planets, moons, asteroids, and other small Solar System bodies formed.	Every macro body in universe is formed from gravitational collapse of small parts of galactic cloud. Smaller bodies, by entering stable orbital paths about much larger bodies under gravitational influence, from outside, formed planetary systems.
Heliocentrism	Heliocentrism is the astronomical model in which the Earth and planets revolve around the Sun at the center of the Solar System.	Imaginary model derived from apparent relative motions of planets in solar system about the sun.
Kepler's three laws of planetary motion	They are three scientific laws describing the motion of planets around the Sun. 1. The orbit of a planet is an ellipse with the Sun at one of the two foci. 2. A line segment joining a planet and the Sun sweeps out equal areas during equal intervals of time. 3. The square of the orbital period of a planet is directly proportional to the cube of the semi-major axis of its orbit.	Laws, based on apparent motions of planets about a static central body, that may be used to explain cyclic and yearly reoccurring phenomena related to relative positions of sun, planets and satellites in solar system.
Orbit	An orbit is the gravitationally curved trajectory of an object, such as the trajectory of a planet around a star or a natural satellite around a planet.	An orbit is the gravitationally curved trajectory of an object, such as the trajectory of a planet about a star or a natural satellite about a planet
Field	Field is a physical quantity, represented by a number or tensor that has a value for each point in space-time.	Structurally distorted region in universal medium.
Lines of force	Imaginary lines which represent the strength and direction of a magnetic, gravitational, or electric field at any point.	Imaginary lines representing mean direction of structural distortions in universal medium.
Magnetic field	A magnetic field is a vector field that describes the magnetic influence of electric charges in relative motion and magnetized materials.	Linearly distorted region in universal medium.
Magnetic monopole	A magnetic monopole is a hypothetical elementary particle that is an isolated magnet with only one magnetic pole. A magnetic monopole would have a net "magnetic charge".	As it is impossible for a straight line to have only one end, magnetic monopole is impossibility.
Magnetic pole	Region at each end of a magnet where the external magnetic field is strongest.	Ends of magnetic lines of force.
North magnetic pole	The "end" of a freely hanging magnet that points north is magnet's "north pole".	Starting-end of magnetic lines of force.
South magnetic pole	The "end" of a freely hanging magnet that points south, is magnet's "south pole".	Finishing-end of magnetic lines of force.
Electric field	The electric field is a vector field that associates to each point in space the electrostatic force per unit of charge exerted on an infinitesimal positive test charge at rest at that point.	Circularly (angularly) distorted structure in the universal medium.
Electric lines of force	Lines which follow the direction of the electric field in space.	Imaginary lines representing directions of circular structural distortions in an electric field.
Electric charge	*Electric charge* is the physical property of matter that causes it to experience a force when placed in an electromagnetic field.	Relative direction of circular structural distortions in an electric field.
Positive electric charge	Electric charge carried by protons.	Direction from where directions of electric lines of force appear clockwise.
Negative electric charge	Electric charge carried by electrons.	Direction from where directions of electric lines of force appear anti-clockwise.
Electric potential of an atom	Electric potential is the amount of work needed to move a unit of charge from a reference point to a specific point inside the field without producing acceleration.	Angular difference between atomic axis of an atom and atomic axes of neighboring atoms in a conductor.
Electric potential at a point in a conductor.	--	Average angular deflection of axes of atoms in the region with respect to their alignment in electrically neutral state of same conductor.

Electric potential difference	Difference between electric potentials at two points.	Difference between electric potentials at two points in the same conductor.
Electric current	An *electric current* is the rate of flow of electric charge past a point or region.	Magnitude of resultant electric field in planes perpendicular to axis of the conductor.
Displacement current	An electric current due to time-varying electric field and it is a source of the magnetic field just as actual current is.	An apparent electric current, required to satisfy mathematical analyses.
Electromotive force	Electromotive force is the electrical action produced by a non-electrical source.	Physical effort that produces electric actions.
Zilch-effort distance	--	Distance between centers of two electric fields, where they do not produce interactive efforts.
Electric force	Two like electric charges repel each other along a straight line between their centers. Two unlike charges attract each other along a straight line joining their centers.	When distance between two like (unlike) electric fields is less than ziltch-effort distance, they apparently repel (or attract) each other along a straight line between their centers. There is no interactive effort when distance between them is equal to zilch-effort distance.
Primary particles	An elementary particle or fundamental particle is a subatomic particle with no sub structure, i.e. it is not composed of other particles. Particles currently thought to be elementary include the fundamental fermions (quarks, leptons, antiquarks, and antileptons), which generally are "matter particles" and "antimatter particles", as well as the fundamental bosons (gauge bosons and the Higgs boson), which generally are "force particles" that mediate interactions among fermions.	Biton, formed by two photons moving about each other in binary fashion, is the primary 3D matter-particle.
Elementary particle		Tetron, formed by two bitons in mutually perpendicular planes about a common center, is the elementary 3D matter-particle.
Electron	Electron is a subatomic particle, whose electric charge is negative one elementary charge.	Is a hexton formed by three bitons in mutually perpendicular planes about a common center. Electron has two south magnetic poles, one resultant electric field and repulsive nuclear field.
Positron	Positron or antielectron is the antiparticle or the antimatter counterpart of the electron.	Is a hexton formed by tree bitons in mutually perpendicular planes about a common center. Positron has two north magnetic poles, one resultant electric field and attractive nuclear field.
Neutron	Neutron is a subatomic particle, with no net electric charge and a mass slightly greater than that of a proton.	A single layered spherical shell formed by numerous tetrons, such that it has no resultant fields about it.
Proton	A proton is a subatomic particle, with a positive electric charge of positive one elementary charge and a mass slightly less than that of a neutron.	A neutron-like spherical shell formed by numerous tetrons about a positron. Proton exhibits all properties of its constituent positron.
Deuteron	Deuteron, composed of a proton and a neutron, is a stable particle.	Two neutron-like spherical shells by tetrons, formed about one positron make a deuteron. It exhibits all properties of constituent positron. Deuterons are the major constituents of atomic nuclei. Each deuteron is presently counted as one proton + one neutron.
Atomic nucleus	Atomic nucleus is the small, dense region consisting of protons and neutrons at the center of an atom.	(Except for very small types of atoms), atomic nuclei are elongated (tube-like) concentric double sheath, formed by circular sections of deuterons.
Atom	An atom is the smallest constituent unit of ordinary matter that constitutes a chemical element.	An atom is the smallest 3D matter-particle that exhibits characteristic properties of an element.
Molecules	A molecule is an electrically neutral group of two or more atoms held together by chemical bonds.	A molecule is an electrically and magnetically neutral group of two or more atoms, held together by gravity.
Isotope	Isotopes are variants of a particular chemical element which differ in neutron number, and consequently in nucleon number. All isotopes of a given element have the same number of protons but different numbers of neutrons in each atom.	Additional neutrons, trapped among other nucleons, produce imbalance in distribution of 3D matter in resulting nucleus. Atoms formed by unbalanced nuclei are 'isotopes'.

Coronal heating problem	The coronal heating problem in solar physics relates to the question of why the temperature of the Sun's corona is millions of Kelvin higher than that of the surface.	Radiation of fresh photons (made from free quanta of matter available in the region) makes Sun's coronal regions to appear millions of Kelvin higher than that of its surface.
Flyby anomaly	The *flyby anomaly* is a discrepancy between current scientific models and the actual increase in speed observed during a planetary *flyby* by a spacecraft.	A discrepancy introduced by using apparent orbital (elliptical) path of a satellite instead of using its real orbital path
Galaxy rotation problem	The galaxy rotation problem is the discrepancy between observed galaxy rotation curves and the theoretical prediction, assuming a centrally dominated mass associated with the observed luminous material.	Galactic rotation anomaly is an apparent phenomenon caused by assigning reality to apparent planetary orbital paths around central bodies.
Cosmic microwave background	The cosmic microwave background, in Big Bang cosmology, is electromagnetic radiation as a remnant from an early stage of the universe. The CMB is faint cosmic background radiation filling all space.	EM radiation formed by remnants of dying photons.
Origin of the elements in the cosmos	The lighter elements were mostly produced in the Big Bang, but the rest were (and are) formed within stars and in the explosions of supernovae.	Development of universal medium from unstructured matter was the first step in creation. Disturbances in universal medium gradually developed into photons. Further, these photons under strict conditions formed into elementary, primary, fundamental and superior 3D matter-particles and macro bodies. These are continuous processes in steady state universe.
Nuclear reactions	A nuclear reaction is semantically considered to be the process in which two nuclei, or else a nucleus of an atom and a subatomic particle from outside the atom, collide to produce one or more atomic species that are different from the nuclide(s) that began the process. Natural nuclear reactions occur in the interaction between cosmic rays and matter, and nuclear reactions can be employed artificially to obtain nuclear energy, at an adjustable rate, on demand.	Disintegration of atomic nuclei to re-form into one or more atoms of similar or different natures.
Newtonian N-body problem	N-body problem is the problem of predicting individual motions of a group of celestial objects interacting with each other gravitationally.	False belief that real planetary orbital paths are of elliptical shape gave rise to this problem.
High-temperature superconductors	High-temperature superconductors are operatively defined as materials that behave as superconductors at temperatures above nearly -200 °C (-320 °F).	Those materials, whose atoms at low 3D matter-content level are sluggish to realign their nuclear and atomic axes after a misalignment.
Catalysis	Catalysis is the process of increasing the rate of a chemical reaction by adding a substance known as a *catalyst* which is not consumed in the catalyzed reaction	Altering rate of chemical reaction by changing nature of structural distortions in universal medium about a mixture of different materials by presence of a third material, which does not take part in the reaction.
Catalyst	A substance that enables a chemical reaction to proceed at a usually faster rate or under different conditions.	A material, by its presence, changes the rate of chemical reaction in a mixture of different materials without taking part in the reaction.
Sonoluminescence	Sonoluminescence is a phenomenon that occurs when a small gas bubble is acoustically suspended and periodically driven in a liquid solution at ultrasonic frequencies, resulting in bubble collapse, cavitation, and light emission.	Illumination by photons created from quanta of matter, scattered from latticework structures of universal medium by sudden physical movements produced during collapse of microscopic bubbles in a liquid.
Chemiluminesence	*Chemiluminescence* is the emission of light, as the result of a chemical reaction.	Radiation of photons, created from free quanta of matter available in a region of universal medium during a chemical interaction.
Liquid crystals	Liquid crystals are a state of matter which has properties between those of conventional liquids and those of solid crystals.	Liquid crystals are a state of superior 3D matter-bodies, which has properties between those of conventional liquids and those of solid crystals.
Superfluid	A superfluid is a state of matter in which matter behaves like a fluid with zero viscosity.	A superfluid is a state of superior 3D matter-bodies, in which they behave like fluids with zero viscosity.

Ball lightning	Ball lightning is an unexplained atmospheric electrical phenomenon described as luminescent, spherical objects that vary from pea-sized to several meters in diameter.	An atmospheric region from where light is radiated by photons created from free quanta of matter, released into universal medium, when inferior 3D matter-particles of participating gasses annihilate each other.
Lightning	Lightning is a naturally occurring electrostatic discharge during which two electrically charged regions in the atmosphere or ground temporarily equalize themselves, causing the instantaneous release of as much as one gigajoule of energy.	Lightning is caused by structural (dielectric) breakdown in universal medium between two clouds, which gained opposite electric potentials. New photons are created and radiated from quanta of matter released during breakdown of universal medium.
Pioneer anomaly	The Pioneer anomaly was the observed deviation from predicted accelerations of the 'Pioneer 10' and 'Pioneer 11' spacecraft after they passed about 20 astronomical units on their trajectories out of the Solar System.	A discrepancy introduced by using apparent orbital (elliptical) path of a satellite instead of using its real orbital path.
Friction	*Friction* is the force resisting the relative motion of solid surfaces, fluid layers, and material elements sliding against each other.	Resistance to relative motion between 3D matter-bodies in contact.
Static friction / Dry friction	Dry *friction* is a force that opposes the relative lateral motion of two solid surfaces in contact.	Resistance to relative motion between two static solid surfaces in contact.
Kinetic friction / Sliding	It is a contact force that resists the sliding motion of two objects or an object and a surface.	Resistance to sliding motion between two solid surfaces in contact.
Starting friction	The force that must be overcome to initiate the motion of one body relative to another because they have been resting in contact.	Resistance to relative motion between two objects in contact, experienced at the instant of their relative displacement.
Avogadro's law	Equal volumes of gases at the same temperature and pressure contain equal numbers of molecules.	As physical sizes of molecules/atoms vary according to their types, equal volumes of gases at the same temperature and pressure have different numbers of molecules.
Boyle's law	States that the pressure of a given mass of an ideal gas is inversely proportional to its volume at a constant temperature.	The pressure of an ideal gas of a given 3D matter-content is inversely proportional to its volume at a constant 3D matter-content level.
Coulomb's force	Attraction or repulsion of particles or objects because of their electric charge.	Apparent attraction or apparent repulsion of particles or objects because of interaction between electric fields about them.
Tides	*Tides* are the rise and fall of sea levels caused by the combined effects of the gravitational forces exerted by the Moon and the Sun, and the rotation of the Earth.	Deformations of a linearly moving rotating body, in both directions along direction of action, caused by action of an external effort, when compared to its mean shape appear as tides.
Terrestrial magnetism	Teresstrial magnetic field is generated by electric currents due to the motion of convection currents of a mixture of molten iron and nickel in the Earth's outer core: these convection currents are caused by heat escaping from the core, a natural process called a geodynamo.	Alignments of free-floating atoms, parallel to equator, in relatively calm fluids on/near surface of earth produce earth's magnetism.
Metamerism	Metamerism is a phenomenon that occurs when two colors appear to match under one lighting condition, but not when the light changes.	Metamerism is the result of different frequency range of selective reflection for photons near regions of universal medium with different natures of structural distortions in them.

Packing fraction / Mass defect	The mass of an atomic nucleus is less than the sum of the individual masses of free constituent protons and neutrons, according to Einstein's equation $E=mc^2$. This 'missing mass' is known as the mass defect, and represents the energy that was released when the nucleus was formed.	Total 3D matter-content and 3D matter-content level of a body depends on external pressure on it. As number of basic 3D matter-particles of a body increases external pressure on it increases and its 3D matter-content level decreases. Therefore, as number of 3D matter-particles in a body increases, its total 3D matter-content (equivalent of which is represented by its mass) reduces proportionately to its current 3D matter-content level. Difference between total 3D matter-content of a combined body and sum of 3D matter-contents of its constituent parts in free state is the mass defect.
Casimir effect	In quantum field theory, the Casimir effect and the Casimir–Polder force are physical forces arising from a quantized field.	Combination of structural distortion in universal medium about two 3D matter-bodies gives rise to adhesion and apparent attraction (similar to Casimir effect) between them.
Radioactivity	Radioactive decay (also known as nuclear decay, radioactivity, radioactive disintegration or nuclear disintegration) is the process by which an unstable atomic nucleus loses energy by radiation. A material containing unstable nuclei is radioactive. Three of the most common types of decay considered are alpha decay, beta decay, and gamma decay, all of which involve emitting one or more particles or photons. The weak force is the mechanism that is responsible for beta decay.	Accidental or intentional inclusion of additional neutron(s) in an atomic nucleus makes 3D matter distribution in the nucleus asymmetrical about its spin axis. Due to asymmetry, constituent photons of fundamental particles suffer cyclic variations in their linear speeds. A photon loses its 3D matter-content in the form of free quanta of matter during attempt to decelerate it and gains 3D matter-content by assimilating quanta of matter from surrounding universal medium during attempt to accelerate it. Universal medium create photons of different frequencies from free quanta of matter discarded by photons, which radiate from the region. This process will continue until the nucleus breaks down to different daughter atoms.
Radiometer effect	A radiometer is a device for measuring the radiant flux (power) of ... and relates to the transfer of heat rather than the direct effect of photons.	In 'Radiometer effect' blackened sides of vanes absorb 3D matter-contents from low-frequency photons in light. 3D matter-content, absorbed by 3D matter-particles in blackened vane, heats the vane and ultimately revert to universal medium. During this interaction, momentum of absorbed photons produces its motion.
Sagnac effect	The Sagnac effect is a phenomenon encountered in interferometry that is elicited by rotation. The Sagnac effect manifests itself in a setup called a ring interferometer.	Sagnac effect is caused by relative velocity of corpuscles of light with respect to surrounding universal medium.
Temperature	Temperature is a physical property of matter that quantitatively expresses hot and cold. It is the manifestation of thermal energy, present in all matter, which is the source of the occurrence of heat, a flow of energy, when a body is in contact with another that is colder.	Temperature is the measure of 3D matter-content level of a body that depends on external pressure on it. In free space, external pressure on a body is the least and the body is in its coolest state with highest 3D matter-content level.
Zero point energy field	Zero-point energy is the lowest possible energy that a quantum mechanical system may have.	A phenomenon caused by evaporation of material bodies under extremely low external pressure.
Nernst effect	In physics and chemistry, the Nernst effect is a thermoelectric (or thermomagnetic) phenomenon observed when a sample allowing electrical conduction is subjected to a magnetic field and a temperature gradient normal (perpendicular) to each other. An electric field will be induced normal to both.	Nernst effect is produced by differences in ability of atoms in a conductor to gain electric potential in relation to their 3D matter- content level.