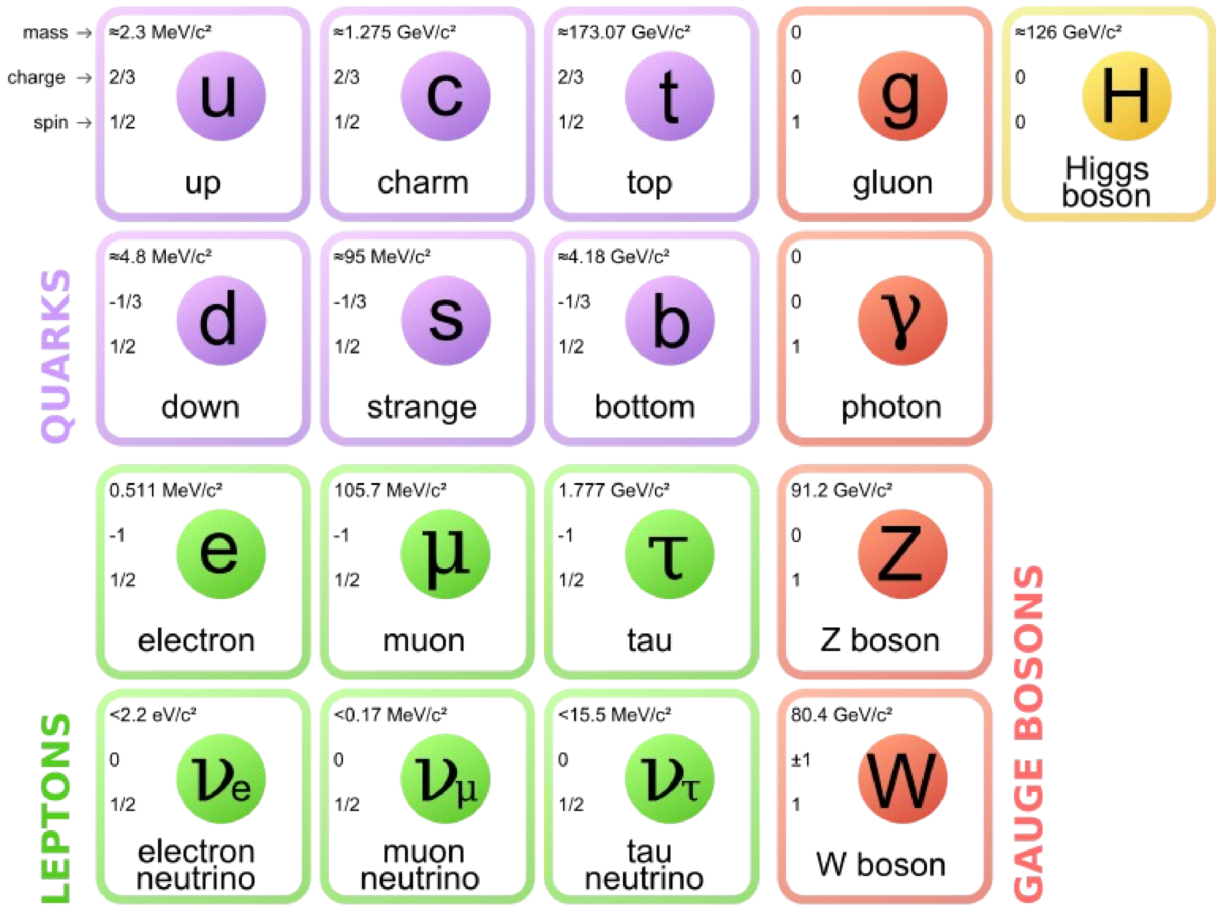
Quarks in Vedic Physics



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Abstract

In our holographic and combinatorial universe, there actually are no discrete conventional particles. Particles are merely a convenient way of discussing combinatorial phenomena. Nor is there linear velocity or the physical transport of objects in the "black hole" Substratum form of matter. Instead, there is a transfer of vibratory ensembles. However, for those who find particles convenient, there are 18 orders of Quarks, not merely six. Quarks exist in the "dark hole" Substratum form of matter, where matter begins to form at the algorithm of 2.718… or the natural logarithm e.

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Introduction

This paper is based on a book about Vedic Physics that is poorly written and which had never been edited. This series of papers provides the editorial oversight needed in that original work with the hope that scientists may more readily accept a work that is correctly written, punctuated and edited according to the standards of American or International English.

The present author believes that this work is of vital importance to humanity to allow bad writing and lack of editing stand in the way of comprehension of this monumental work. Moreover, the book contains such startling concepts that would astound the average reader, who is inclined to believe otherwise, considering the power of today's prevailing ideological paradigm. Readers may find this work literally in – credible since it may overpower their knowledge and grasp of science.

This paper proceeds quite simply: Wikipedia provides the standard explanation of Quarks as understood today. The second part presents the view of Vedic Physics on Quarks. In this way, the author hopes that the reader finds no contradiction between established paradigms and the Vedic concept. The reader may only discover the lack of imagination on the part of contemporary science.

Wikipedia on Quarks

A **quark** (/□kw□rk/ or /□kwɑrk/) is an elementary particle and a fundamental constituent of matter. Quarks combine to form composite particles called hadrons, the most stable of which are protons and neutrons, the components of atomic nuclei.[1]

Due to a phenomenon known as *color confinement*, quarks are never directly observed or found in isolation; they can be found only within hadrons, such as baryons (of which protons and neutrons are examples), and mesons.[2][3] For this reason, much of what is known about quarks has been drawn from observations of the hadrons themselves.

There are six types of quarks, known as *flavors*: up, down, strange, charm, bottom, and top.[4] Up and down quarks have the lowest masses of all quarks. The heavier quarks rapidly change into up and down quarks through a process of particle decay: the transformation from a higher mass state to a lower mass state.

Because of this, up and down quarks are generally stable and the most common in the universe, whereas strange, charm, top, and bottom quarks can only be produced in high energy collisions (such as those involving cosmic rays and in particle accelerators).

Quarks have various intrinsic properties, including electric charge, color charge, mass, and spin. Quarks are the only elementary particles in the Standard Model of particle physics to experience all four fundamental interactions, also known as *fundamental forces* (electromagnetism, gravitation, strong interaction, and weak interaction), as well as the only known particles whose electric charges are not integer multiples of the elementary charge. For every quark flavor there is a corresponding type of antiparticle, known as an *antiquark*, that differs from the quark only in that some of its properties have equal magnitude but opposite sign.

The quark model was independently proposed by physicists Murray Gell-Mann and George Zweig in 1964.[5] Quarks were introduced as parts of an ordering scheme for hadrons, and there was little evidence for their physical existence until deep inelastic scattering experiments at the Stanford Linear Accelerator Center in 1968.[6][7] All six flavors of quark have since been observed in accelerator experiments; the top quark, first observed at Fermilab in 1995, was the last to be discovered.[5]

The Standard Model is the theoretical framework describing all the currently known elementary particles, as well as the Higgs boson.[8] This model contains six flavors of quarks (q), named up (u), down (d), strange (s), charm (c), bottom (b), and top (t).[4]

Antiparticles of quarks are called *antiquarks*, and are denoted by a bar over the symbol for the corresponding quark, such as u for an up antiquark. As with antimatter in general, antiquarks have the same mass, mean lifetime, and spin as their respective quarks, but the electric charge and other charges have the opposite sign.[9]

Quarks are spin-½ particles, implying that they are fermions according to the spin-statistics theorem. They are subject to the Pauli exclusion principle, which states that no two identical fermions can simultaneously occupy the same quantum state.

This is in contrast to bosons (particles with integer spin), any number of which can be in the same state.[10] Unlike leptons, quarks possess color charge, which causes them to engage in the strong interaction. The resulting attraction between different quarks causes the formation of composite particles known as *hadrons* (see "Strong interaction and color charge" below).

The quarks which determine the quantum numbers of hadrons are called *valence quarks*; apart from these, any hadron may contain an indefinite number of virtual (or *sea*) quarks, antiquarks, and gluons which do not influence its quantum numbers.[11] There are two families of hadrons: baryons, with three valence quarks, and mesons, with a valence quark and an antiquark.[12]

The most common baryons are the proton and the neutron, the building blocks of the atomic nucleus.[13] A great number of hadrons are known (see list of baryons and list of mesons), most of them differentiated by their quark content and the properties these constituent quarks confer. The existence of "exotic" hadrons with more valence quarks, such as tetraquarks (qqqq) and pentaquarks (qqqqq), has been conjectured[14] but not proven.[nb 1][14][15]

Elementary fermions are grouped into three generations, each comprising two leptons and two quarks. The first generation includes up and down quarks, the second strange and charm quarks, and the third bottom and top quarks. All searches for a fourth generation of quarks and other elementary fermions have failed,[16] and there is strong indirect evidence that no more than three generations exist.[nb 2][17]

Particles in higher generations generally have greater mass and less stability, causing them to decay into lower-generation particles by means of weak interactions. Only first-generation (up and down) quarks occur commonly in nature.

Heavier quarks can only be created in high-energy collisions (such as in those involving cosmic rays), and decay quickly; however, they are thought to have been present during the first fractions of a second after the Big Bang, when the universe was in an extremely hot and dense phase (the quark epoch). Studies of heavier quarks are conducted in artificially created conditions, such as in particle accelerators.[18]

Having electric charge, mass, color charge, and flavor, quarks are the only known elementary particles that engage in all four fundamental interactions of contemporary physics: electromagnetism, gravitation, strong interaction, and weak interaction.[13]

Gravitation is too weak to be relevant to individual particle interactions except at extremes of energy (Planck energy) and distance scales (Planck distance). However, since no successful quantum theory of gravity exists, gravitation is not described by the Standard Model.

Table of Quark Properties

The table of properties below for a more complete overview of the six quark flavors' properties.

Name	Symbol	Mass (MeV/c^2)*	J	B	Q	I_3	C	S	T	B'	Antiparticle	Antiparticle symbol
					First generation							
Up	u	1.7 to 3.1	$1/2$	$+1/3$	$+2/3$	$+1/2$	0	0	0	0	Antiup	u
Down	d	4.1 to 5.7	$1/2$	$+1/3$	$-1/3$	$-1/2$	0	0	0	0	Antidown	d
					Second generation							
Charm	c	$1{,}290^{+50}_{-110}$	$1/2$	$+1/3$	$+2/3$	0	+1	0	0	0	Anticharm	c
Strange	s	100^{+30}_{-20}	$1/2$	$+1/3$	$-1/3$	0	0	−1	0	0	Antistrange	s
					Third generation							
Top	t	172,900±600 ± 900	$1/2$	$+1/3$	$+2/3$	0	0	0	+1	0	Antitop	t
Bottom	b	$4{,}190^{+180}_{-60}$	$1/2$	$+1/3$	$-1/3$	0	0	0	0	−1	Antibottom	b

J = total angular momentum, B = baryon number, Q = electric charge, I_3 = isospin, C = charm, S = strangeness, T = topness, B' = bottomness.

* Notation such as $4{,}190^{+180}_{-60}$ denotes measurement uncertainty. In the case of the top quark, the first uncertainty is statistical in nature, and the second is systematic.

Vedic Physic Quark Explanation

A book on Vedic physics states the following:

A major caveat of the holographic concept is that there can be no such thing as a linear velocity or a physical transport of objects in the Substratum. Only a transfer of vibratory ensembles, takes place at a rate numerically equal to the velocity of light, when there is an obstruction to maintaining the resonant vibratory state.

Therefore, at the very fundamental level, there are no such discrete things as conventional particles. However, the observer finds it convenient to describe phenomena that exist in stable coherent oscillatory states, as if they consisted of protons, electrons, photons, and quarks.

Man can quantify the observable universe only by detecting the sequential vibrations he can measure, but remains oblivious to the simultaneous activity he cannot detect! If man is serious about really understanding ALL phenomena, then he cannot ignore this fact, but must have the courage and skill to quantify the invisible, simultaneous vibrations by axiomatic means.

As a pointer, there are 18 incrementally - graded quark levels, but theoretical premises based on empiricism in particle physics extend it only to 6 levels; exactly a third of the true number, but the levels are logarithmic.

At the level of the Substratum, this aspect cannot be overlooked. Sankhya solves this problem by a combinatorial process using integer number series that not only applies to the atomic periodic table but also to every interactive state of the components in the Substratum, in exactly the same way and the same scale.

In the process, it eminently clarifies the reason for the “ladder or nested “ mass/energy structure of the entire spectrum of atomic and nuclear particles, with only three levels of classification right through the quark spectrum, the Planck mass and finally the black hole. The Substratum has it all.

To illustrate, true periodicity at the basic level of integer combinations is

$(n2 + n) \times ½. = P$

but when the value of n is very large $P = n2$ ½. .

As an example, if $n = 2$ then $P = (n2 + n) \times ½. = 3$ whereas by $P = n2 \times ½. = 2$.

Therefore, the Galactic centre, the Sun, the planets, the hadronic nuclear states such as the neutron, proton, electron and all such forms that have a coherent internalized count state must seem to attract incoherent ensembles.

How would it be possible for there to exist eighteen levels of Quark, when contemporary science, with all of its exotic ware, such as CERN and Stanford, have failed to discover them? The reason is that western science lacks the vision to envision such particles, and so blindly gropes along. The book on Vedic Physics provides the details:

“The electromagnetic photon spectrum of waves that form the Satwic region acts in the Ahankar mode, until its Abhiman potential places it in the leptonic particle domain. The crossover into the weak interactive region is conditioned by the synchronisation of interactions along two axes.

“This superposed state raises the inertia or mass density to shorten the interactive time-cycle and close the spatial distance between particles, which increases its mass.

It describes the Raja / Abhiman region of resonant interactions that gradually lead to the Raja / Bhava interactive states of the Hadron/lepton spectrum. It crosses further into the Linga / Raja resonant spectrum of heavier particulate states.

“In the Thaama / Linga region is an extensive spectrum of particulate states identified as quark / heavy quark etc.

“Vedic Physics shows that in the ultimate coherent state when interactions along all three axes are simultaneous, the black hole state with 18 orders interactive modes provide the gigantic potential to make these locations into the powerhouse of the universe.”

Unfortunately, however, western science limits its perspective and thus proves capable of seeing only one third of existing quark levels:

“There exist 18 incrementally graded quark levels but theoretical premises based on empiricism in particle physics extends it only to 6 levels; exactly a third but the levels are logarithmic.”

Vedic Physics Chart

Region	**Particles**	**Particles**	
EM Ahankar		Strong	Satva
Raja Abhiman potential	Lepton	Weak	
Thaama / Linga	quark	heavy quark	

Conclusion

From the chart above, one may see that particles develop in phases:

Ahankar, Abhiman and Linga. 6 x 3 = 18, which renders 18 Quark levels.

The purpose of this series of papers on Vedic Physics is to inform and improve contemporary science so that rapid developments can be made. The author of one book on Vedic Physics estimates that development of science and technology to that level requires between six thousand and ten thousand years.

The level of science in the west at best has five hundred years of development, and at a rather fast rate comparatively. However, egregious mistakes have been made over the past century, which has caused western science to lag behind. It is the hope of the author that these papers will help set modern science on the right track so that true progress might be made.

Contact

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Some men see things as they are and say *why?* I dream things that never were and say *why not?*

Let's dedicate ourselves to what the Greeks wrote so many years ago:

to tame the savageness of man and make gentle the life of this world.

Robert Francis Kennedy