Science from History to Future

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Science from History to Future

1. INERTIA

2. Form of the interference field

3. CORRECTED Maswell's equations

4. Corrected Newton´s Laws of Motion

5. Kinetic energy of a charge moving at the velocity of v has two different values:

Kinetic energy against direction of motion as wave

Tkin ad = mc2 [ln |1+v/c|- (v/c)/(1+v/c)]

Kinetic energy in direction of motion as particle Tkin id = mc2 [ln|1-v/c|+ (v/c)/(1-v/c)]

- **1. INERTIA**
- **Inertial motion is an intrinsic property of matter. Bat no Newton´s , no Einstein´s linear motion is an intrinsic property of matter. Inertial motion is only quasi-circle. It is Galileian´s motion**

- **The atomic theory shows that the electrons and the nucleus circulate around the center of gravity of atom in approximate circles. The body rotating around its own axis (a flywheel) persists in this status.**
- **Similarly, the planets, stars, galaxies, molecules, nuclei and elementary particles rotate around their own axes. Since the uniform straight-line inertial motion cannot be achieved in a microworld, its place here is exclusively in the inertial quasi-circle motion. It is analogous in the macroworld. Each real "straight-line" motion can be replaced by a circle of a huge radius. This discussion results in the following:**

- **"Every mass (atom, molecule, particle, body, vacuum) persists in the status of the quasi-rest or quasi-uniform motion in a quasi-circle as far as it the external forces do not force it to change its status. (This notion is called the generalized law of inertia)."**

- 1.1 Newton in his book "Mathematical Principles of Natural Philosophy":

Every body continues to rest in a state of rest or a uniform and rectilinear movement, until and because it does not force the forces applied to change this state.

In an rotating frame of reference the law of inertia is allegedly incorrect, therefore the Newtonian formulation was replaced by the postulate of the existence of inertial frames of reference (by EINSTEIN !!!).

Galilei´s, Newton´s, Einstein´s movement "along a straight line" is a circle with radius 6378 km!!

No real motion can be straight-line one. It is only mathematical definition.

Mathematics is NO PHYSICS !!!

The postulate of the existence of inertial frames of reference

does not belong to physics. Neither postulate does not belong to physics.

Physics is based on experiments and not on postulates.

"The difference between a good experiment and a good theory is in the fact that the theory gets old quickly and it is replaced by another one, based on more perfect ideas. It will be forgotten quickly. The experiment is something else. The experiment, which has been thought well and performed carefully, will step in the science forever. It will become its part. It is possible to explain such experiment differently in different periods of times."

P. L. KAPICA

- 1.2 Galileo Galilei

- The first law (the law of inertia), in a less clear form, was published by Galileo. It should be noted that Galileo allowed free movement **not only along a straight line, but also along a circle (apparently from astronomical considerations)**. Galileo also formulated the most important principle of relativity
- 1996: Let's have a real coordinates system firmly connected with a real laboratory on Earth, where all experiments testing the physical theories are performed. We know that this coordinates system moves around the Earth axis during an astronomical day i. e. it performs a quasi-circular motion. During the year it rotates around the Sun approximately in a quasi-circle together with the Earth. During 2*10^8 years it circulates in the quasi-circle around the center of the Galaxy. It performs a quasi-uniform motion in a quasi-circle together with the Sun.
- The Galaxy performs a quasi-uniform and quasi-circle motion around the center within the framework of metagalaxies of star clusters and our laboratory coordinates system on Earth together with it, etc.
- From the experimental testing of the law of inertia it is known that the body moves along the "plane" stated by a waterlevel, i. e. in fact it is not a straight-line uniform motion, but it is the motion in the circle of the Earth radius of R=6378 km.
- The space aeronautics show that space ships, Earth satellites and orbital laboratories move quasi-uniformly in almost a circle around the Earth.

We will review the experiments of Fizeau, Harress, Kaufmann, Michelson - Morley, which led to the emergence of Einstein's special and general relativity theory.

EINSTEIN, A.: Sobranie naučnych trudov v četyrech tomach pod redakciej L. E. TAMMA, Ja. A. SMORODINSKOGO, B. G. KUZNECOVA, Izdateľstvo "Nauka", Moskva 1966

- Nobel laureates in physics are mostly physicists, who mainly create and defend physics. Einstein never received a Nobel prize for relativity...
- Why Einstein's theory of relativity is not generally accepted as correct even after 100 years.
- Why it nevertheless no one truly understand.
- For nearly 100 years ago have been Nobel Prize winners said:
- **„- Die Relativitätstheorie ist eine mathematische und keine physikalische Theorie.**
- - Die Theorie ist bei weitem noch nicht experimentell abgesichert, die Meßergebnisse der Sonnenfinsternisexpeditionen lassen noch andere Deutungen zu.
- - Das Relativitätsprinzip ist nur für masseabhängige Bewegungen gültig
- - Die Relativitätstheorie widerspricht den fundamentalen Vorstellungen über Raum und Zeit: der euklidische Raum und die üblichen Zeitvorstellungen müssen verbindlich bleiben.
- Speziell bei Lenard kamen dann noch die Bedeutung der Anschaulichkeit in einer Theorie und die entscheidende Rolle des „gesunden Menschenverstandes" hinzu."
- "- The theory of relativity is a mathematical and not a physical theory.
- - The theory is far from being confirmed experimentally, the results of the solar eclipse expeditions allow other interpretations.
- - The principle of relativity is only valid for mass-dependent movements
- - The theory of relativity contradicts the fundamental ideas about space and time: the Euclidean space and the usual concepts of time must remain binding.
- Especially with Lenard, the importance of clarity in a theory and the decisive role of "common sense" were added. "
- (Math has no EXPERIMENT, only definitions., Assumptions)

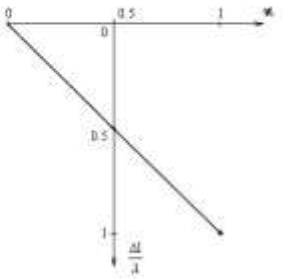
http://btp2x1.phy.uni-bayreuth.de/roessler/LFB/Lehrerfortbildung2012/Schoenbeck.pdf

- Linear form of the interference field

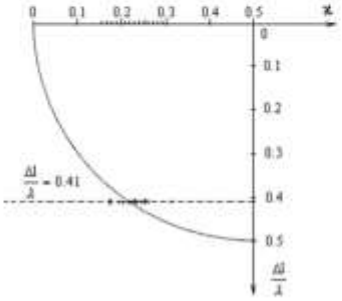
Fresnel: $\alpha = 0.44$, $v = \alpha u$, $v + \alpha u$, $u = 7.059$ m/s

Theory must use drag coefficient α and aether.

- ***Fizeau's Experiment***

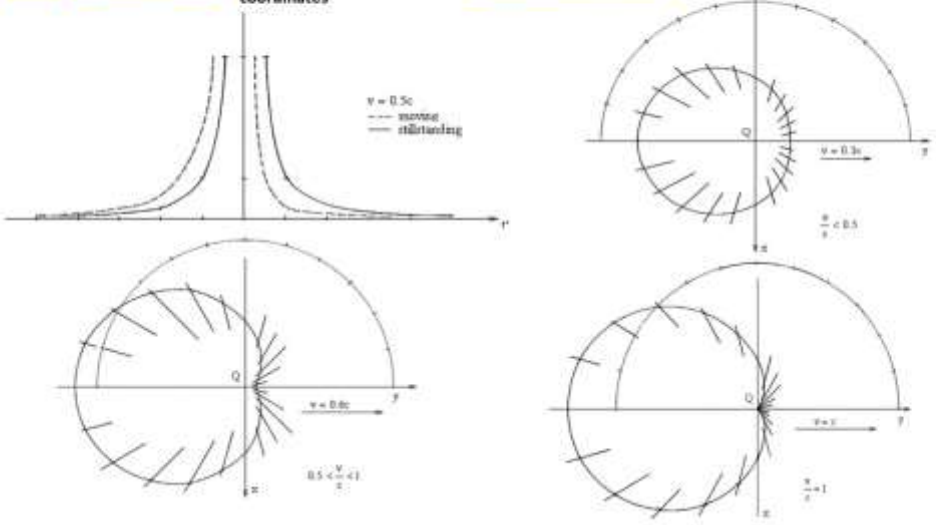


- Non linear form of the interference field
- ***Fizeau's Experiment***
- **We do not need any drag coefficient α .**
- Fizeau's experiment confirms also that the interference field has a non-linear form.



Asymmetrical Form of Intensity of the Moving Charge Electric and Magnetic Field

Fig. 2.7, 2.8., 2.9. 2.10 At level (x, y) section of the "hyperoloid" of the intensity for various speeds of the moving charge have a shape of all types of Pascal's screw stocks with charge at the beginning of the coordinates



Intensity of the Moving Charge Electric Field

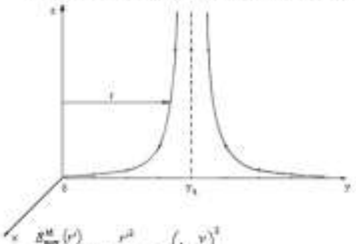
$$E_{mov} = E_{st}\left(1-\frac{v}{c}\cos\theta\right)^2$$

system of coordinates (x, y, z) connected with the medium causing propagation of light. Let the electric field intensity in this medium propagate at speed c in all directions.

Fig. 2.1. The intensity of the stillstanding charge

$$\oplus_{st} = v \cdot \Delta t_{st} = \frac{v}{c+v}(v \cdot t - r) = \frac{-v}{c+v} r'$$

$$\oplus_{st} = v \cdot \Delta t_{st} = \frac{v(r - vt)}{c-v} = \frac{v}{c-v} r'$$

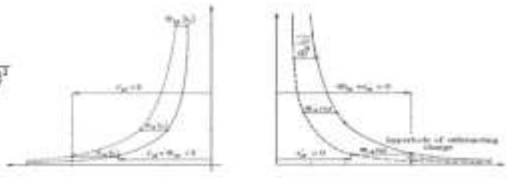


$$E_{mov}^{st}(r') = E_{st}(r' + \oplus_{st})$$

$$E_{st}(r' + \oplus_{st}) = \text{const}\,\frac{1}{(r' + \oplus_{st})^2}$$

$$E_{st}(r') = \text{const}\,\frac{1}{r'^2}$$

$$E_{mov}^{st}(r') = \text{const}\,\frac{1}{(r' + \oplus_{st})^2}$$



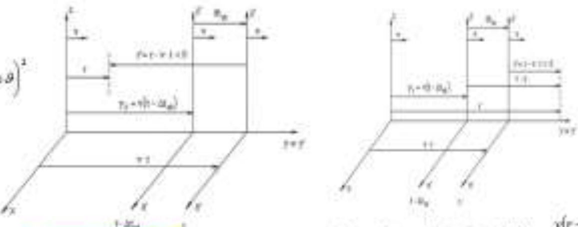
$$\frac{E_{mov}^{st}(r')}{E_{st}(r')} = \frac{r'^2}{(r' + \oplus_{st})^2} = \left(1-\frac{v}{c}\right)^2$$

$$E_{mov}^{st} = E_{st}\left(1-\frac{v}{c}\right)^2$$

$$\frac{E_{mov}^{st}(r')}{E_{st}(r')} = \frac{r'^2}{(r' + \oplus_{st})^2} = \left(1+\frac{v}{c}\right)^2$$

$$E_{mov}^{st} = E_{st}\left(1+\frac{v}{c}\right)^2$$

$$E_{mov} = E_{st}\left(1-\frac{v}{c}\cos\theta\right)^2$$



It is evident that with increasing distance ri (i = 1,2,3,...) the respective "retardation of intensity" $\oplus_{st}(ri)$ also increases, as can be seen in equation $\oplus_{st} = v \cdot \Delta t_{st} = \frac{v(r - vt)}{c-v} = \frac{v}{c-v} r'$

Harress´s Experiment

KNOPF, O.: Annalen der Physik, Vierte folge, Band 62, 1920 :

"Die Versuche von F. Harress uber die Geschwindigkeit des Lichtes in bewegten Korpern, von O. Knopf. p. 391 – 447

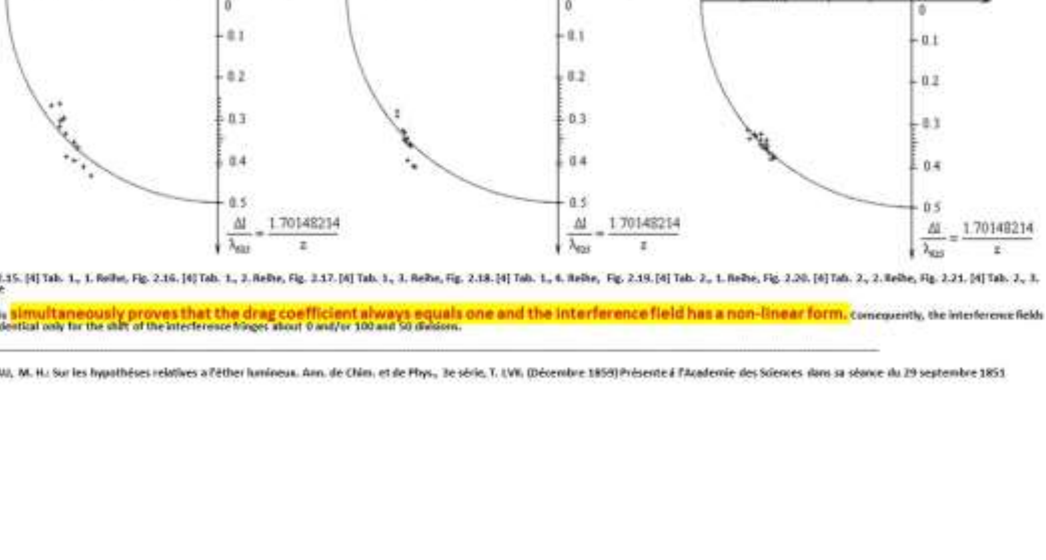


Fig. 2.15. [4] Tab. 1., 1. Reihe, Fig. 2.16. [4] Tab. 1., 2. Reihe, Fig. 2.17. [4] Tab. 1., 3. Reihe, Fig. 2.18. [4] Tab. 1., 4. Reihe, Fig. 2.19. [4] Tab. 2., 1. Reihe, Fig. 2.20. [4] Tab. 2., 2. Reihe, Fig. 2.21. [4] Tab. 2., 3. Reihe

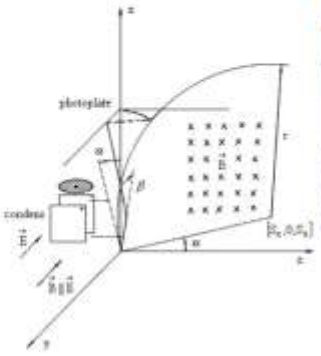
This is simultaneously proves that the drag coefficient always equals one and the interference field has a non-linear form. Consequently, the interference fields are identical only for the shift of the interference fringes about 0 and/or 100 and 50 divisions.

FIZEAU, M. H.: Sur les hypothèses relatives a l'éther lumineux. Ann. de Chim. et de Phys., 3e série, T. LVII. (Décembre 1859) Présente á l'Academie des Sciences dans sa séance du 29 septembre 1851

Kaufmann's Experiment

(1)Annalen der Physik, Vierte Folge, Band 19, Leipzig 1906, Verlag von Johann Ambrosius Barth, page 487-552

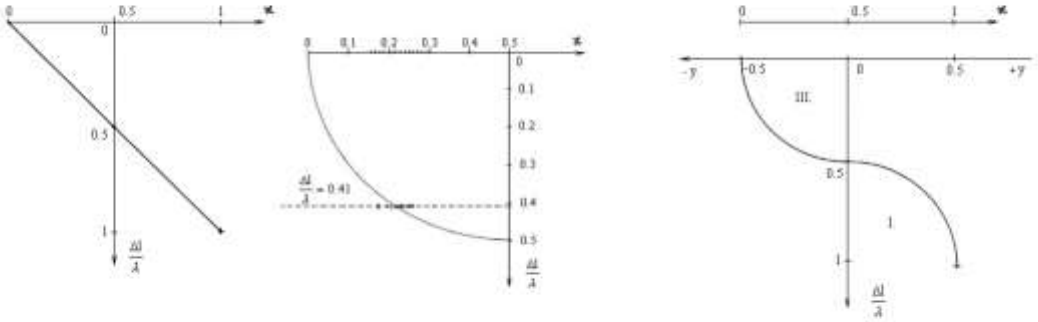
Kaufmann's Experiment – diagram



Condens.

	1631 V	2603 V	3250 V
y_B[cm]	0.1236 0.1119	0.1493 0.1302	0.1664 0.1616
β	2°	3°11'	4°30'
y[cm]	0.23626	0.3873	0.4985
y_T[cm]	0.0629	0.09947	0.12557
y_T-theoretical value (our new theory): y_B[cm] = y_T[cm]			

2. Form of the interference field



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CORRECTED Maswell's equations

Let us take the equation (2.20) in the vector form:

$$E_{mov} = E_{ml}\left(1-\frac{v}{c}\cos\vartheta\right)^2$$

The force acting on the moving electric charge is

$$F = QE_{mov} = QE_{ml}\left(1-\frac{v}{c}\cos\vartheta\right)^2 = QE_{ml}\left(1+\frac{v}{c}\sin\phi\right)^2 =$$

$$= QE_{ml} + QE_{ml}\left(2+\frac{v}{c}\sin\phi\right)\frac{v}{c}\sin\phi$$

whereby $-\cos\beta = \sin\phi$

It is known, in line with the classical theory, that a magnetic field is created by the moving charges and electric currents. The result is that the moving charge creates its own magnetic field of induction $\boldsymbol{B}_q$. It continues in this field in motion. According to Lorentz, the force acting on the moving charge in the electromagnetic field at speed v in the magnetic field of induction $\boldsymbol{B}$ and in the electric field of the following intensity $\boldsymbol{E}$ it is valid:

$$\boldsymbol{F} = \boldsymbol{F}_{el} + \boldsymbol{F}_m = Q\boldsymbol{E} + Q(\boldsymbol{v}\times\boldsymbol{B}) \qquad (2.23)$$

Let us compare the equations (2.22) and (2.23).

Intensity $\boldsymbol{E}$ of the electric field according to Lorentz equals to our intensity $\boldsymbol{E}_{ml}$.

$$\boldsymbol{F} = \boldsymbol{F}_{el} + \boldsymbol{F}_m = Q\boldsymbol{E} + Q(\boldsymbol{v}\times\boldsymbol{B})$$

CORRECTED Maswell's equations

Since the forces acting on the moving charge are the same, the equation applies

$$E_{still}\left(2+\frac{v}{c}\sin\phi\right)\frac{v}{c}\sin\phi = \boldsymbol{v}\times\boldsymbol{B} \qquad (2.24)$$

With regard to the fact that both the direction E_{still} and the direction of the vector $\boldsymbol{v}\times\boldsymbol{B}$ are identical, for the absolute values it is possible to write

$$E_{still}\left(2+\frac{v}{c}\sin\phi\right)\frac{v}{c}\sin\phi = v\cdot B\cdot\sin\phi$$

i.e. $$B=\frac{E_{still}}{c}\left(2+\frac{v}{c}\sin\phi\right) \qquad \boldsymbol{v}\times\boldsymbol{B} = \boldsymbol{E}_{mov} - \boldsymbol{E}_{still}$$

$$\boldsymbol{E}_{mov} = \boldsymbol{E}_{still} + \boldsymbol{v}\times\boldsymbol{B}$$

The intensity of moving charge comprises in itself also the magnetic field induction B created by the charge moving at speed v.

Based on $\boldsymbol{E}_{mov} = \boldsymbol{E}_{still} + \boldsymbol{v}\times\boldsymbol{B}$

Maxwell's equations which are always valid (not only in static) acquire the form:

$\nabla\boldsymbol{E}_{mov} = \nabla(\boldsymbol{E}_{still}+\boldsymbol{v}\times\boldsymbol{B}) = \nabla\boldsymbol{E}_{still} + \nabla(\boldsymbol{v}\times\boldsymbol{B}) = \frac{\rho}{\varepsilon_0}$ Gauss law ($\nabla\boldsymbol{E}_{still} = \frac{\rho}{\varepsilon_0}$)

in statics: $\nabla\times\boldsymbol{E}_{still} = 0$

$\nabla\boldsymbol{B} = 0$ are no magnetic charges,

$\nabla\times\boldsymbol{E}_{mov} = \nabla\times[\boldsymbol{E}_{still} + (\boldsymbol{v}\times\boldsymbol{B})] = \nabla\times\boldsymbol{E}_{still} + \nabla\times(\boldsymbol{v}\times\boldsymbol{B})$

$\nabla\times\boldsymbol{E}_{still} = 0$

$\nabla\times(\boldsymbol{v}\times\boldsymbol{B}) = \boldsymbol{v}(\nabla\boldsymbol{B}) - \boldsymbol{B}(\nabla\boldsymbol{v})$

$\nabla\cdot\boldsymbol{v} = \frac{\partial}{\partial t}$

$\nabla\times\boldsymbol{E}_{mov} = -\frac{\partial\boldsymbol{B}}{\partial t}$

Faraday's law

Amper's law in statics: $c^2\nabla\times\boldsymbol{B}_{stat} = \frac{\boldsymbol{j}}{\varepsilon_0}$

Total magnetic field: $\boldsymbol{B}_{dyn} = \boldsymbol{B}_{stat} + \boldsymbol{B}_Q$

$\boldsymbol{B}_Q = \boldsymbol{B}_{dyn} - \boldsymbol{B}_{stat}$

$\boldsymbol{B}_{dyn} = \boldsymbol{B}_{stat} + (\boldsymbol{B}_{dyn} - \boldsymbol{B}_{stat}) = \boldsymbol{B}_{stat} + \boldsymbol{B}_Q$

$c^2\nabla\times\boldsymbol{B}_{dyn} = c^2\nabla\times\boldsymbol{B}_{stat} + c^2\nabla\times\boldsymbol{B}_Q \qquad c^2\boldsymbol{B}_Q = (\boldsymbol{v}\times\boldsymbol{B}_Q)\times\boldsymbol{v}$

$c^2\nabla\times\boldsymbol{B}_{stat} = \frac{\boldsymbol{j}}{\varepsilon_0}$

$\nabla\times[(\boldsymbol{v}\times\boldsymbol{B}_Q)\times\boldsymbol{v}] = (\boldsymbol{v}\times\boldsymbol{B}_Q)(\nabla\boldsymbol{v}) - \boldsymbol{v}[\nabla(\boldsymbol{v}\times\boldsymbol{B}_Q)] =$

$= \frac{\partial(\boldsymbol{v}\times\boldsymbol{B}_Q)}{\partial t} = \frac{\partial(\boldsymbol{E}_{mov} - \boldsymbol{E}_{still})}{\partial t} = \frac{\partial\boldsymbol{E}_{mov}}{\partial t}$

$\frac{\partial\boldsymbol{E}_{still}}{\partial t} = 0$

The 4th Maxwell's equation:

$$c^2\nabla\times\boldsymbol{B}_{dyn} = \frac{\boldsymbol{j}}{\varepsilon_0} + \frac{\partial\boldsymbol{E}_{mov}}{\partial t}$$

Calculation of the kinetic energy of a body moving at the velocity of v

Analogically for the intensity of the gravitational field one could write: $g_{mv} = g_{m0}\left(1-\frac{v}{c}\cos\vartheta\right)^2$

For the potential energy: $dW_p = m g_{m0}\, dh$ For the potential energy: $T_{kin} = \int dW_p = \int_0^h m g_{m0}\, dh = \int_0^h m \frac{g_{mv}}{\left(1-\frac{v}{c}\cos\vartheta\right)^2} dh$

By substituting $g_{mv} = \frac{dv}{dt}$ and $\frac{dh}{dt} = v$ we get: $T_{kin} = m\int_0^v \frac{v\,dv}{\left(1-\frac{v}{c}\cos\vartheta\right)^2}$

Solving by substitution $1-\frac{v}{c}\cos\vartheta = z$

we get: $T_{kin} = \frac{mc^2}{\cos^2\vartheta}\left[\ln\left|1-\frac{v}{c}\cos\vartheta\right| + \frac{\frac{v}{c}\cos\vartheta}{1-\frac{v}{c}\cos\vartheta}\right]$

For $\vartheta = 0°$ we have the kinetic energy in the direction of motion $T_{kin_{\vartheta=0}} = mc^2\left[\ln\left|1-\frac{v}{c}\right| + \frac{\frac{v}{c}}{1-\frac{v}{c}}\right]$

For $\vartheta = 180°$ we have the kinetic energy against the direction of motion $T_{kin_{\vartheta=180}} = mc^2\left[\ln\left|1+\frac{v}{c}\right| - \frac{\frac{v}{c}}{1+\frac{v}{c}}\right]$

If $0 < \frac{v}{c} = x << 1$ utilizing the series $\begin{matrix}\ln(1\pm x)\\ (1\pm x)^{-1}\end{matrix}$ $T_{kin_{\vartheta=0}} = T_{kin_{\vartheta=180}} = \frac{1}{2}mv^2$

4. Corrected Newton´s Laws of Motion

- **First law:**

"Every mass (atom, molecule, particle, body, vacuum, transmission medium) persists in the status of the quasi-rest or quasi-uniform motion in a quasi-circle, or quasi- elipse (excentricity e –> 0) as far as it the external forces do not force it to change its status. (This notion is called the **generalized law of inertia**)."

- **Third law:**

All movements in physics are based **on principle of action - reaction** and on velocity of **stable particles** (**e-, p+,n0, D, He-3, α**).

- Action, as a motion of stable particles (**e-, p+,n0, D, He-3, α**), **is characterized by alternating acceleration and deceleration motion in the source,** along ellipse or quasi- elipse (excentricity e –> 0).

Stable particles of various speed (**leptons μ–, τ–, baryons, mesons**), **bosons W +, W-, Z** (**β electrons**) are characterized by kinetic energy **in direction of motion** $T_{kin\,id} = mc^2[ln\,|1-v/c| + (v/c)/(1-v/c)]$

- Reaction creates in the transmission medium, **electromagnetic waves**, as **unstable "particles"** -

neutrinos νe, νμ, ντ , mesons π0, π+ , π- , η , K and gamma rays (**f >10^19 Hz**) are characterized by kinetic **against direction of motion as wave** $T_{kin\,ad} = mc^2[ln\,|1+v/c| - (v/c)/(1+v/c)]$

Accompanying activity of reaction on movement of stable particles in the transmission medium are **waves, or "unstable particles"** i.e. **neutrinos and mesons.**

4. Corrected Newton´s Laws of Motion

Consequences

Physics is Easy

Leptons (electron, muon, tau), W + - Z bosons and neutrinos (electron neutrino , muon neutrino, tau neutrino) can be replaced with electron moving at different speeds from **0.001c up to 0.999.. c :**

Electron, electron neutrino are in the electron at speed of **electron : from v= 0.001c to v= 0.9 c**

Muon, muon neutrino are in the electron at speed of **electron : v= 0,995308032046c**

Tauon, tauon neutrino are in the electron at speed of **electron : v= 0,99971316674c**

W + - boson and neutrino are in the β electron at speed of **electron : v= 0,99999364465781184c**

Z boson and neutrino are in the β electron at speed of **electron : v= 0,999994396590953c**

Higgs Boson 125300 MeV/c 2 speed of **proton : v= 0,9928305c** **β electron is radiated from a neutron**

Hyperons, mesons and quarks can be replaced by **proton and neutron ,or alpha particle** respectively, moving at different speeds from **0.1c up to 0.999.. c:**

Lambda hyperón 2286,46 MeV and pion π 0 : 134.9766(6) MeV are in the proton

at speed of proton v= 0,8022863362c

hyperon Chí c (2645)+ 2646,6MeV and pion π ± : 139.57018(35) MeV are in the proton

at speed of proton v= 0,819183027c

hyperon 6,165 GeV and meson K- 493.7 MeV are in the alpha particle

at speed of alpha particle v= 0,7533c

4. Corrected Newton´s Laws of Motion

•Consequences

- **What is Quark?**

Two energies, which are measured in opposite directions, and we consider them as quarks are actually two different kinetic energy of a single proton, the first in the direction of its movement, and the second in the opposite direction. Quarks are actually locked (**confinement**) in proton, as is clear from the individual tables.

-QUARK = proton of different speeds

A pair of quarks of one generation = one speed of proton:

u,d quarks are in the proton at speed of **proton : from v= 0,05875c to v= 0,105065c**

c,s quarks are in the **proton at speed of proton from v=0,713c to v=0,7805c**

t quark is in the proton (neutron) at speed of **proton (neutron):**

v=0,994637c for **top quark: 169 100MeV**

v=0,994766c for **top quark: 173 400MeV/c2**

b quark is in the proton (neutron) at speed of **proton (neutron): v=0,8665c** for **4,2 GeV bottom quark**

4. Corrected Newton´s Laws of Motion

Consequences

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Table 2. Calculation of the kinetic energy T_{kin} of a body moving at the velocity of v according to Vlcek and according to Einstein

v/c	Vlcek 's theory - kinetic energy against direction of motion as wave $T_{kin\,ad} = mc^2[ln\,\|1+v/c\|-(v/c)/(1+v/c)]$	Vlcek 's theory – kinetic energy in direction of motion as particle $T_{kin\,id} = mc^2[ln\,\|1-v/c\|+(v/c)/(1-v/c)]$	Einstein's theory $T_{kin} = mc^2 - m_0 c^2$
0.1	0.00439 mc^2	0.0057 mc^2	0.0050 $m_0 c^2$
0.2	0.0156 mc^2	0.0268 mc^2	0.0200 $m_0 c^2$
0.3	0.0316 mc^2	0.0719 mc^2	0.0480 $m_0 c^2$
0.4	0.0508 mc^2	0.1558 mc^2	0.0910 $m_0 c^2$
0.5	0.0722 mc^2	0.3068 mc^2	0.1550 $m_0 c^2$
0.6	0.0950 mc^2	0.5837 mc^2	0.2500 $m_0 c^2$
0.7	0.1174 mc^2	1.1293 mc^2	0.4010 $m_0 c^2$
0.8	0.1434 mc^2	2.3905 mc^2	0.6670 $m_0 c^2$
0.9	0.1680 mc^2	6.6974 mc^2	1.2930 $m_0 c^2$
0.99	0.1906 mc^2	94.3948 mc^2	6.9200 $m_0 c^2$
1.0	0.1931 mc^2	infinite	infinite

Change QUALITY

1905 A.E. : Einstein ´s theory Tkin =mc^2 – mo c^2

1996: Tkin id =mc^2 [ln |1-v/c|+ (v/c) / (1-v/c)]

Tkin ad = mc^2 [ln |1+v/c|- (v/c) / (1+v/c)]

Einstein's theory works only for v < 0.1c.

https://biocoreopen.org/ijnme/New-Trends-in-Physics-Extraordinary-proofs.pdf

u,d quarks are in the proton at speed of proton : from v= 0.05875c to v= 0.105065c

v/c	$T_{kin\,id} = mc^2[\ln\|1-v/c\| + (v/c)/(1-v/c)]$	$T_{kin\,od} = mc^2[\ln\|1+v/c\| - (v/c)/(1+v/c)]$
0.05875	Down quark $T_{kin\,id}$ = **1.7550 MeV** / p: [ ] = 0.0018704988039450329861777626124876	Up quark $T_{kin\,od}$ = **1.5 MeV** / p: [ ] = 0.0015986835148543461794415692315107
0.075	Down quark $T_{kin\,id}$ = **2.92697671 MeV** / p: [ ] = 0.0031195396113692225967210545118109	Up quark $T_{kin\,od}$ = **2.4MeV** / p: [ ] = 0.0025532197191610043413170483032 69
0.081622	Down quark $T_{kin\,id}$ = **3.5 MeV** / p: [ ] = 0.0037302615346601410853636615401917	Up quark $T_{kin\,od}$ = **2.81404106871 MeV** / p: [ ] = 0.0029991740444424494322328316937 02
0.08878	Down quark $T_{kin\,id}$ = **4.18366235 MeV** / p: [ ] = 0.0044589013511482922312132108807756	Up quark $T_{kin\,od}$ = **3.3 MeV** / p: [ ] = 0.0035171037326795615947714523093 24
0.094686	Down quark $T_{kin\,id}$ = **4.8MeV** / p: [ ] = 0.0051156918494022662432562213837619	Up quark $T_{kin\,od}$ = **3.72637 MeV** / p: [ ] = 0.0039715278483606256196473452168 45
0.105065	Down quark $T_{kin\,id}$ = **6 MeV** / p: [ ] = 0.0063947340594173847177662769260429	Up quark $T_{kin\,od}$ = **4.530260 MeV** / p: [ ] = 0.0048283015026596502291040657295924
	Quarks are actually locked (confinement) in proton	**as is clear from the individual tables**

u,d quarks are in the proton at speed of proton : from v= 0.05875c to v= 0.105065c

v/c	$T_{kin\,id} = mc^2[\ln\|1-v/c\| + (v/c)/(1-v/c)]$	$T_{kin\,od} = mc^2[\ln\|1+v/c\| - (v/c)/(1+v/c)]$
0.05875	Down quark $T_{kin\,id}$ = **1.7550 MeV** / p: [ ] = 0.0018704988039450329861777626124876	Up quark $T_{kin\,od}$ = **1.5 MeV** / p: [ ] = 0.0015986835148543461794415692315107
0.075	Down quark $T_{kin\,id}$ = **2.92697671 MeV** / p: [ ] = 0.0031195396113692225967210545118109	Up quark $T_{kin\,od}$ = **2.4MeV** / p: [ ] = 0.0025532197191610043413170483032 69
0.081622	Down quark $T_{kin\,id}$ = **3.5 MeV** / p: [ ] = 0.0037302615346601410853636615401917	Up quark $T_{kin\,od}$ = **2.81404106871 MeV** / p: [ ] = 0.0029991740444424494322328316937 02
0.08878	Down quark $T_{kin\,id}$ = **4.18366235 MeV** / p: [ ] = 0.0044589013511482922312132108807756	Up quark $T_{kin\,od}$ = **3.3 MeV** / p: [ ] = 0.0035171037326795615947714523093 24
0.094686	Down quark $T_{kin\,id}$ = **4.8MeV** / p: [ ] = 0.0051156918494022662432562213837619	Up quark $T_{kin\,od}$ = **3.72637 MeV** / p: [ ] = 0.0039715278483606256196473452168 45
0.105065	Down quark $T_{kin\,id}$ = **6 MeV** / p: [ ] = 0.0063947340594173847177662769260429	Up quark $T_{kin\,od}$ = **4.530260 MeV** / p: [ ] = 0.0048283015026596502291040657295924
	Quarks are actually locked (confinement) in proton	**as is clear from the individual tables**

c,s quarks are in the proton at speed of proton:

from v= 0.713 c to v= 0.73333c s quark m_0 = 70 – 130 MeV/c2 , 95+5–5 MeV/c2 [1]

m_0 = 80-130 MeV/c2, Theorized Murray Gell-Mann (1964) George Zweig (1964) Discovered 1968, SLAC
[1] Citation: J. Beringer et al. (Particle Data Group), PR D86, 010001 (2012) (URL: http://pdg.lbl.gov)

c quark Theorized Sheldon Glashow, John Iliopoulos, Luciano Maiani (1970)
Discovered Burton Richter et al. (SLAC)(1974) Samuel Ting et al. (BNL)(1974)
c quark m_0 = 1.16–1.34 MeV/c2 , m_0 = 1.29+0.05 –0.11 GeV/c2[1] Decays into Strange quark (~95%), Down quark (~5%)[2][3]

v/c	$T_{kin\,id} = mc^2[ln\,\lvert 1-v/c\rvert + (v/c)/(1-v/c)]$	$T_{kin\,ad} = mc^2[ln\,\lvert 1+v/c\rvert - (v/c)/(1+v/c)]$
0.713	charm quark $T_{kin\,id}$ = 1.160 GeV / p: [ ] = 1.2360474942687732555244135294 31	strange quark $T_{kin\,ad}$ = 114.485493763640 MeV / p: [ ] = 0.1220173810465946482487035019 6726
0.72585	charm quark $T_{kin\,id}$ = 1.270 GeV / p: [ ] = 1.3535582771630143437838209404184	strange quark $T_{kin\,ad}$ = 117.41941 MeV / p: [ ] = 0.1251443140843896794544685049 7659
0.73333	charm quark $T_{kin\,id}$ = 1.340 GeV / p: [ ] = 1.4281572732698825869678018468163	strange quark $T_{kin\,ad}$ = 119.1311 MeV / p: [ ] = 0.1269686002331659274975186191 9307
	Quarks are actually locked (confinement) in proton	**as is clear from the individual tables**

t quark to b quark are in the proton at speed of proton :

from v= c to v= 0. c t quark m_0 = 172.44 ± 0.13 (stat) ± 0.47 (syst) GeV/c^2[1] ,

m_0 = 173.4 MeV/c2, Theorized Makoto Kobayashi and Toshihide Maskawa (1973) Discovered CDF and DØ collaborati
Decays into: bottom quark (99.8%), strange quark (0.17%), down quark (0.007%)

v/c	$T_{kin\,id} = mc^2[ln\,\lvert 1-v/c\rvert + (v/c)/(1-v/c)]$	$T_{kin\,ad} = mc^2[ln\,\lvert 1+v/c\rvert - (v/c)/(1+v/c)]$
0.994766	top quark $T_{kin\,id}$ = 173.4 GeV / p: [ ] = 184.8078143171624183434454	$T_{kin\,ad}$ = 179.9968678 MeV / p: [ ] = 0.191838683558878228973
0.994637	top quark $T_{kin\,id}$ = 169.1 GeV / p: [ ] = 180.2249215745799592957129	$T_{kin\,ad}$ = 179.96660877927 MeV [ ] = 0.191806433786441122906
0.8665	bottom quark $T_{kin\,id}$ = 4.2 GeV / p: [ ] = 4.4763138415921693024363 94	$T_{kin\,ad}$ = 149,9613333459543879 MeV [ ] = 0.1598271409905030872176695 75
	t -> b -> c -> s -> u <-> d This decay of quarks actually means a reduction of the speed of proton	

v/c	$T_{kin\,id} = mc^2[ln\,|1-v/c| + (v/c)/(1-v/c)]$	$T_{kin\,ad} = mc^2[ln\,|1+v/c| - (v/c)/(1+v/c)]$
0.994766	top quark $T_{kin\,id}$ = 173.4 GeV / p: [ ] = 184.8078143171624183434454	$T_{kin\,ad}$ = 179.9968678 MeV / p: [ ] = 0.191838683558878228973
0.994637	top quark $T_{kin\,id}$ = 169.1 GeV / p: [ ] = 180.2249215745799592957129	$T_{kin\,ad}$ = 179.96660877927 MeV [ ] = 0.19180643378644112290 6
0.8665	bottom quark $T_{kin\,id}$ = 4.2 GeV / p: [ ] = 4.476313841592169302436394	$T_{kin\,ad}$ = 149,9613333459543879 MeV [ ] = 0.159827140990503087217669575
0.73333	charm quark $T_{kin\,id}$ = 1.340 GeV / p: [ ] = 1.428157273269882586967801 8	strange quark $T_{kin\,ad}$ = 119.1311 MeV / p: [ ] = 0.126968600233165927497518619193 07
0.72585	charm quark $T_{kin\,id}$ = 1.270 GeV / p: [ ] = 1.353558277163014343783820940418 4	strange quark $T_{kin\,ad}$ = 117.41941 MeV / p: [ ] = 0.125144314084389679454468504976 59
0.713	charm quark $T_{kin\,id}$ = 1.160 GeV / p: [ ] = 1.236047494268773255524413529431	strange quark $T_{kin\,ad}$ = 114.485493763640 MeV / p: [ ] = 0.122017381046594648248703501967 26
0.105065	Down quark $T_{kin\,id}$ = 6 MeV / p: [ ] = 0.006394734059417384717766276926042 9	Up quark $T_{kin\,ad}$ = 4.530260 MeV / p: [ ] = 0.004828301502659650229104065729592 4
0.08878	Down quark $T_{kin\,id}$ = 4.18366235 MeV / p:	Up quark $T_{kin\,ad}$ = 3.3 MeV / p:

Interesting DECAY MODES

v/c	$T_{kin\,id} = mc^2[ln\,|1-v/c| + (v/c)/(1-v/c)]$	$T_{kin\,ad} = mc^2[ln\,|1+v/c| - (v/c)/(1+v/c)]$	Decay modes
Proton 0,8212451756	Ω0c 2,695.2±1.7 MeV/ p+ : [ ] = 2.87251447	π+ 139,57 MeV / p+ : [ ] = 0.1487523587588583	See Ω0c decay modes
	Ω0c		
Proton 0.81052636568	Σ+c 2452,9 MeV/ p+ : [ ] = 2.614273770499822082725714	Pion π0 136,93440 MeV/ p+ : [ ] = 0.145943178944838051921943 8	Λ+c + π0
	Λ+c		
0,9928305	Higgs Boson 125300 MeV /p: 133,54335827671029218747501724036	179.54287216724 MeV 0.191354813279005033975005068774	

- Leptons (electron, muon, tau), W + - Z bosons and neutrinos (electron neutrino , muon neutrino, tau neutrino) can be replaced with electron moving at different speeds from 0.001c up to 0.999.. c :
- Electron, electron neutrino are in the electron at speed of electron : from v= 0.001c to v= 0.9 c
- Muon, muon neutrino are in the electron at speed of electron : v= 0,995308032046c
- Tauon, tauon neutrino are in the electron at speed of electron : v= 0,99971316674c
- **W + - boson and neutrino** are in the β electron at speed of electron : v= 0,99999364465781184c
- **Z boson and neutrino** are in the β electron at speed of electron : v= 0,9999943965909 53c
- Higgs Boson 125300 MeV/c speed of proton : v= 0,9928305c β electron is radiated from a neutron
- Hyperons, mesons and quarks can be replaced by proton and neutron ,or alpha particle respectively, moving at different speeds from 0.1c up to 0.999.. c:
- Lambda hyperón 2286,46 MeV and pion π 0 : 134.9766(6) MeV are in the proton

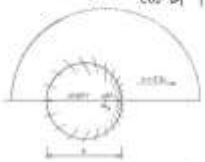
  at speed of proton v= 0,8022863362c
- hyperon Chí c (2645)+ 2646,6MeV and pion π ± : 139.57018(35) MeV are in the proton

  at speed of proton v= 0,819183027c
- hyperon 6,165 GeV and meson K- 493.7 MeV are in the alpha particle at speed of alpha particle v= 0,7533c

Radius of force reach of particles Heisenberg's uncertainty principle

$$W = W_{rm}\left(1-\frac{v_1}{c}\cos\vartheta\right)^2 = \frac{1}{4\pi\varepsilon_0}\frac{e^2}{r}\left(1-\frac{v_1}{c}\cos\beta\right)^2$$

$$W = T_{kin} = \int dW_p = \frac{m_0c^2}{\cos^2\vartheta}\left[\ln\left|1-\frac{v}{c}\cos\vartheta\right| + \frac{\frac{v}{c}\cos\vartheta}{1-\frac{v}{c}\cos\vartheta}\right]$$



$$r_c = \frac{1}{4\pi\varepsilon_0}\frac{e^2}{m_0c^2}\frac{\left(1-\frac{v}{c}\cos\vartheta\right)^2\cos^2\vartheta}{\left[\ln\left|1-\frac{v}{c}\cos\vartheta\right| + \frac{\frac{v}{c}\cos\vartheta}{1-\frac{v}{c}\cos\vartheta}\right]}$$

$$r_p = \frac{1}{4\pi\varepsilon_0}\frac{e^2}{m_0c^2}\frac{\left(1-\frac{v}{c}\cos\vartheta\right)^2\cos^2\vartheta}{\left[\ln\left|1-\frac{v}{c}\cos\vartheta\right| + \frac{\frac{v}{c}\cos\vartheta}{1-\frac{v}{c}\cos\vartheta}\right]}$$

"The bigger the impulse (i. e. the higher speed, too) the shorter force range radius.."

"The smaller the impulse (the slower speed) the longer force range radius."

The higher the speed of particle, the shorter radius of its own force range (it is significant for v > 0,05c).

At the same time it is the explanation of the short radius of force range of the particles of strong fields.

Slow speed is accompanied by the long radius of force range.

v/c		$r(0°)$ [fm]	$r(180°)$ [fm]	d_p [fm]
10^-6	(300m/s)			3.06.10^9
10^-3	(300km/s)			6.12.10^3 (6pm)
0.03		3.0719	3.75224	6.824
0.04		1.66934	2.1798	3.8491
0.06		0.6917	1.0324	1.7241
0.07		0.49045	0.78267	1.27312
0.1				0.6361
0.11		0.1716	0.35832	0.5299
0.19		0.0421	0.1516	0.1937
0.5				0.04895
0.7				0.0373
1	High speed is	accompanied by the short	radius of force range.	0.03168

The Universe is the Cathedral of Science.

Doubts are anteroom Cathedral of SCIENCE .

Confirming our theory in Universe.

1. **Movement Principles of the Fast-Spinning Bodies**

http://vixra.org/pdf/1404.0238v1.pdf

2. **Nuclear Fusion**

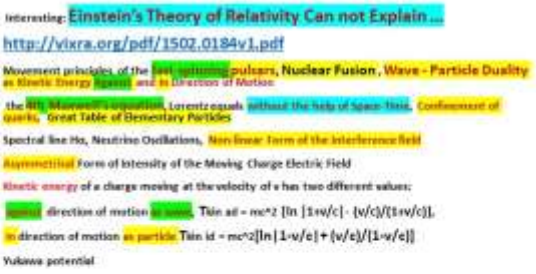
http://vixra.org/pdf/1404.0130v1.pdf

3. **Neutrino Oscillations**

http://vixra.org/pdf/1404.0369v1.pdf

4. **Orbit Radius and Speed of the Sun Around the Center of Gravity of the Solar System**

http://vixra.org/pdf/1404.0253v1.pdf



5. **Spectral line Hα**

http://vixra.org/pdf/1404.0248v1.pdf

6. **Great Table of Elementary Particles**

http://vixra.org/pdf/1404.0243v1.pdf

7. **Corrected Newton´s Laws of Motion**

http://vixra.org/pdf/1501.0199v1.pdf

[ln |1-v/c|+ (v/c) / (1-v/c)] , [ln |1+v/c|- (v/c) / (1+v/c)] ..... [ ] it is crucial for the correct quantitative values in most relationships.

QUALITATIVE TRUTH verified by all physicists:

1.Electron emits electromagnetic waves if and only if it is moving

(alternately) accelerated and (decelerated) [after almost zero eccentricity ellipse].

2.Moving charge creates not only electric but also magnetic field.

We have a magnetic field if and only if we have moving charges

QUANTITATIVE STATEMENTS then creates different theories from different authors. For example, Maxwell's electromagnetic theory, Bohr's atom model, Lorentz force ...

These quantitative statements can be improved over the centuries and become closer to the truth.

For example, using the asymmetric shape of the electric field of the moving charge, we can deduce:

a) 4. Maxwell's equation that Maxwell did not deduce. (p.30 [1])

b) Calculating of the Lorentz relation for force from the relation for the electric field of a moving charge (p.28 [1])

c) Gaussian Law (p.29 [1])

d) Faraday's Law (p.29 [1])

e) Kinetic energy in the direction of motion as Newton's - Einstein's kinetic energy of a particle moving in the transmissive medium and kinetic energy of waves (against direction of motion of a particle) that this particle is creating - leaving in transmissive medium - like Maxwell's energy.

What is also an elegant explanation of the 400-year-old dispute in physics: WAVE - PARTICLE DUALITY.

https://biocoreopen.org/ijnme/New-Trends-in-Physics-Extraordinary-proofs.pdf

- Given this large number of new facts, it would be very desirable to create as many discussions as possible on the above topics, to approve or correct them as we correct some past claims - e.g.:

Bohr's electron skipping

from one energy level to another

is replaced by a **fluent**, very fast electron motion after an almost zero eccentricity ellipse,

- **Einstein's** relation for kinetic energy **mc^2 - moc^2**

to replace with a relationship

mc^2 [ln |1-v/c|+ (v/c) / (1-v/c)] for particle

mc^2 [ln |1+v/c|- (v/c) / (1+v/c)] for wave

The faculty professors are fully engaged in their teaching duties.

There is no time left for doubts in anteroom Cathedral of SCIENCE.