

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/334051894>

How to make Theoretical Physics valid for the longest

Article · June 2019

CITATIONS

0

READS

6

1 author:



Lubomir Vlcek

Comenius University in Bratislava

54 PUBLICATIONS 3 CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:



Great table of elementary particles. [View project](#)



How to make Theoretical Physics valid for the longest [View project](#)

How to make Theoretical Physics valid for the longest .

„The first principle is that you must not fool yourself and you are the easiest person to fool.“

R. P. FEYNMAN

"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

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.: Sbranie naučnych trudov v četyrech tomach pod redakcij I. E. TAMMA, Ja. A. SMORODINSKOGO, B. G. KUZNECOVA, Izdatelstvo "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)

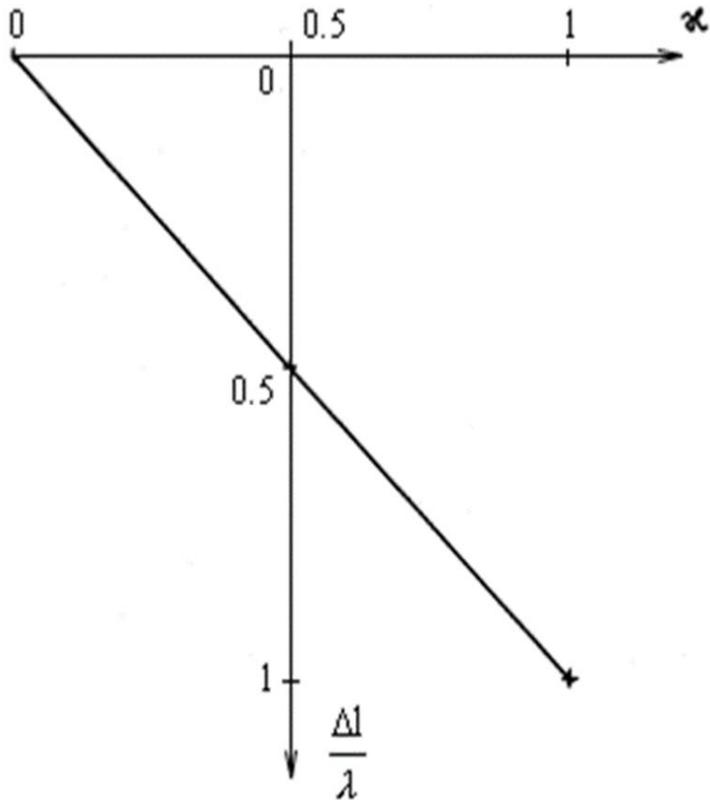
<http://btp2x1.phy.uni-bayreuth.de/roessler/LFB/Lehrerfortbildung2012/Schoenbeck.pdf>

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

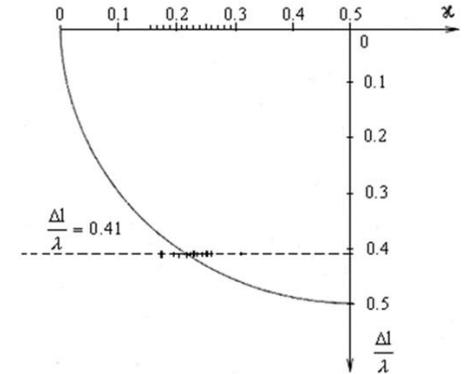
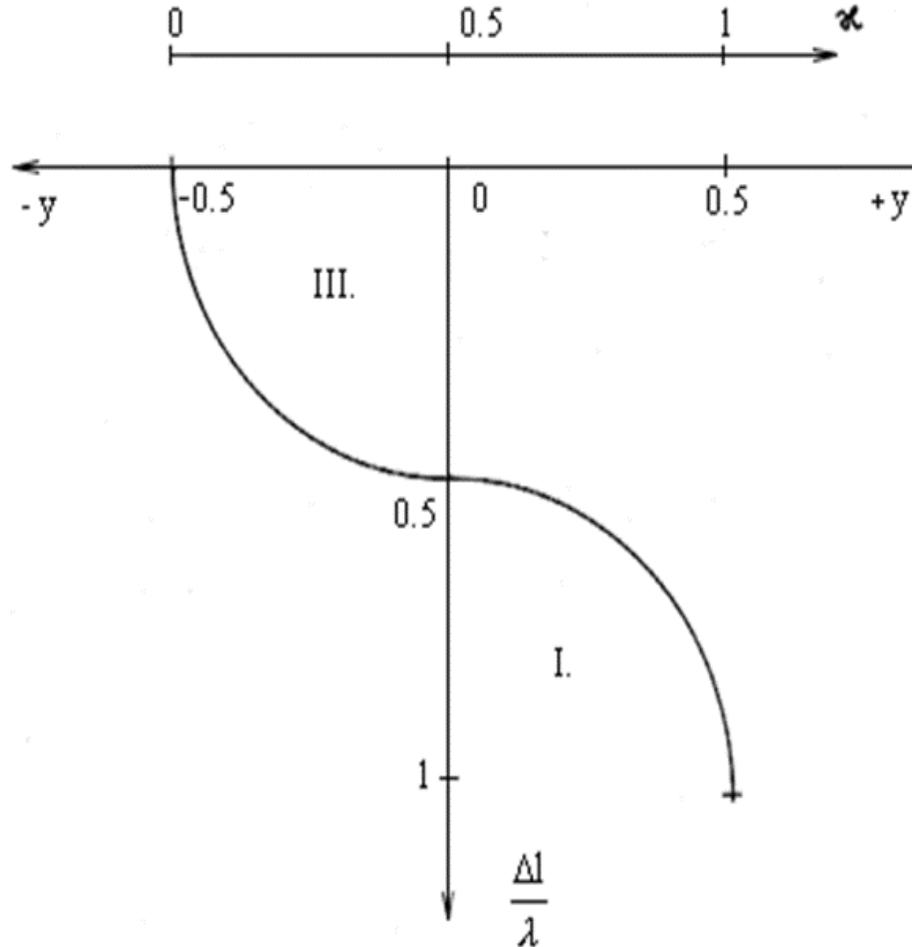


Non linear form of the interference field

Fizeau's Experiment

We do not need any drag coefficient α . { or $\alpha = 1$ }

Fizeau's experiment confirms also that the interference field has a non-linear form.



Harress's Experiment

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

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

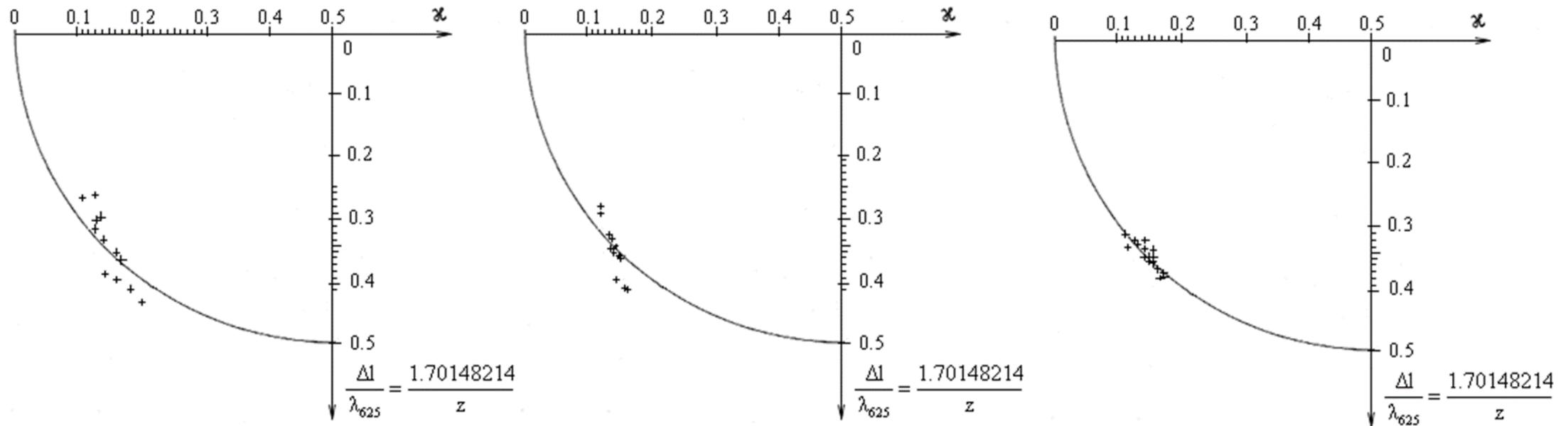


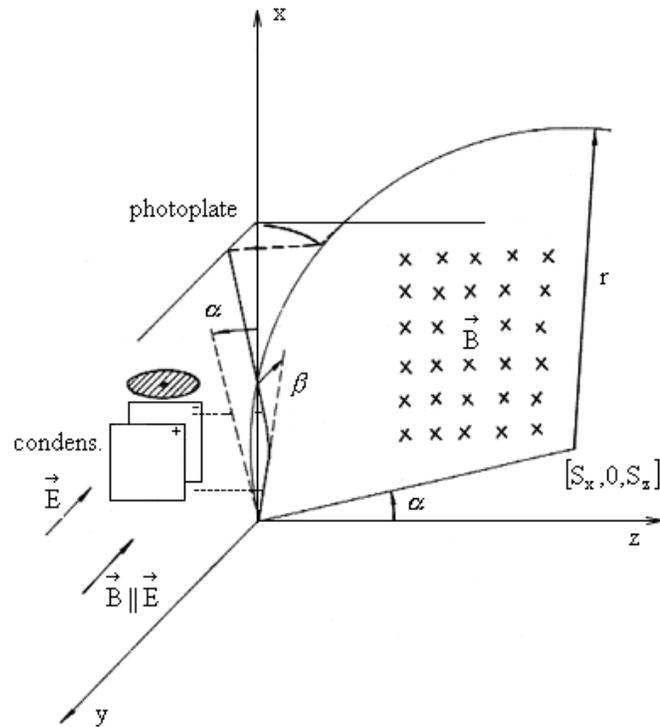
Fig. 2.15. [4] Tab. 1., 1. Reihe, Fig. 2.16. [4] Tab. 1., 2. Reihe, Fig. 2.17. [4] Tab. 1., 3. Reihe, Fig. 2.18. [4] Tab. 1., 4. Reihe, Fig. 2.19. [4] Tab. 2., 1. Reihe, Fig. 2.20. [4] Tab. 2., 2. Reihe, Fig. 2.21. [4] Tab. 2., 3. Reihe

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.

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

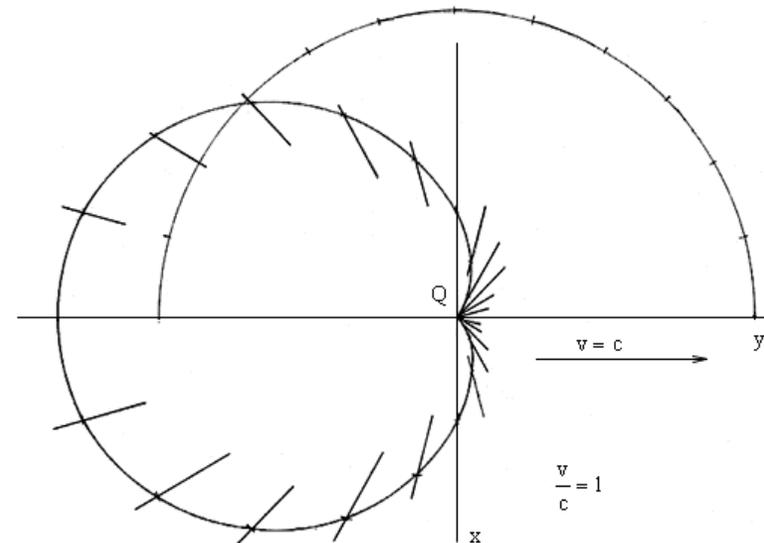
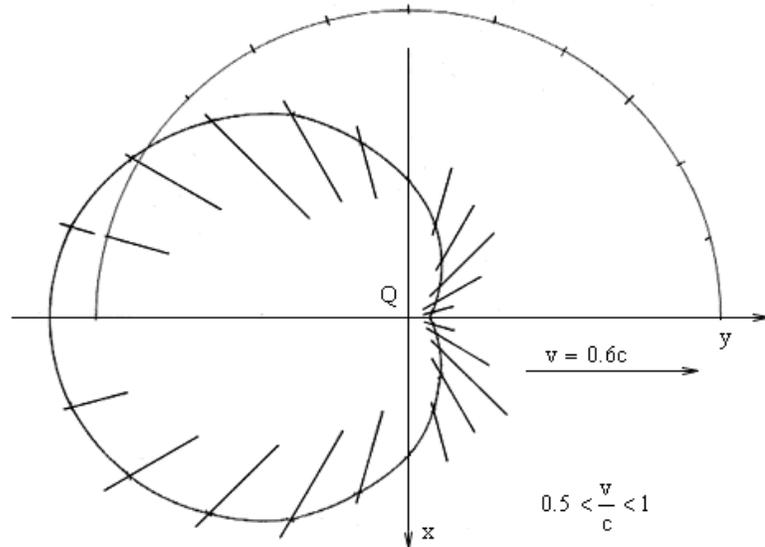
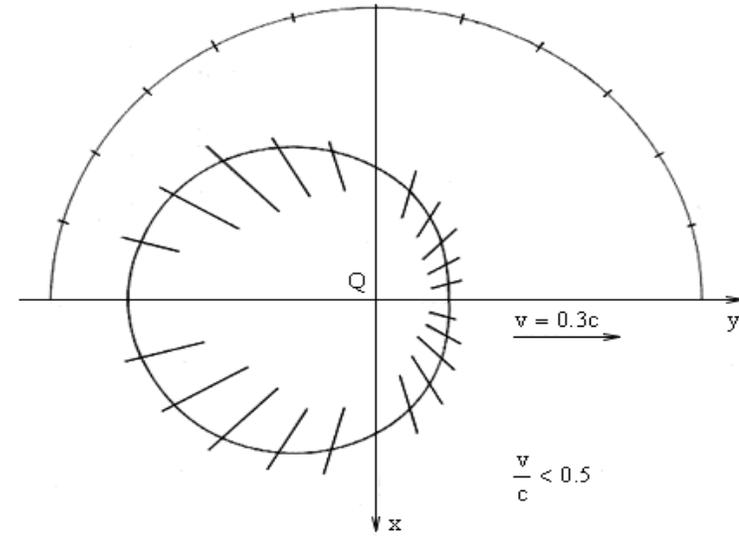
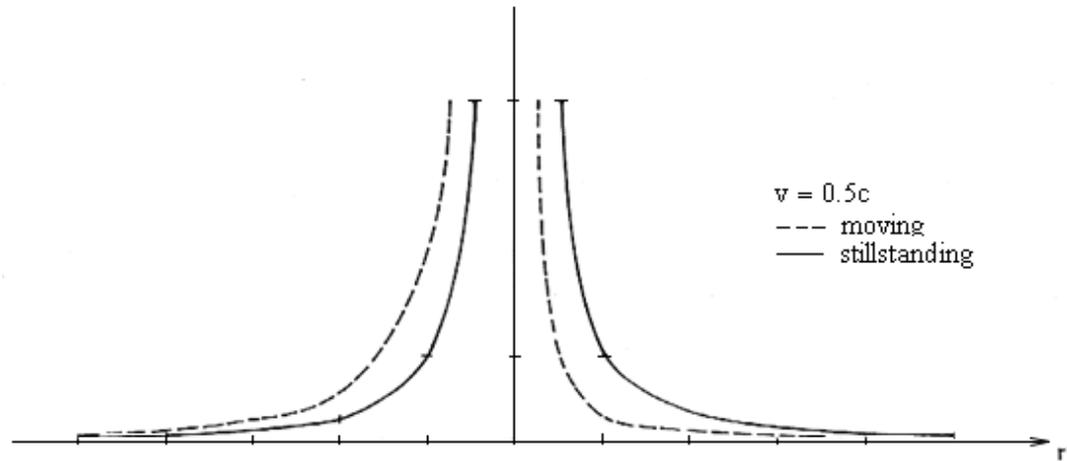


Condens.

| | 1631 V | 2603 V | 3250 V |
|--|---------|---------|---------|
| y_b [cm] | 0.1236 | 0.1493 | 0.1664 |
| | 0.1119 | 0.1302 | 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] | | | |

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

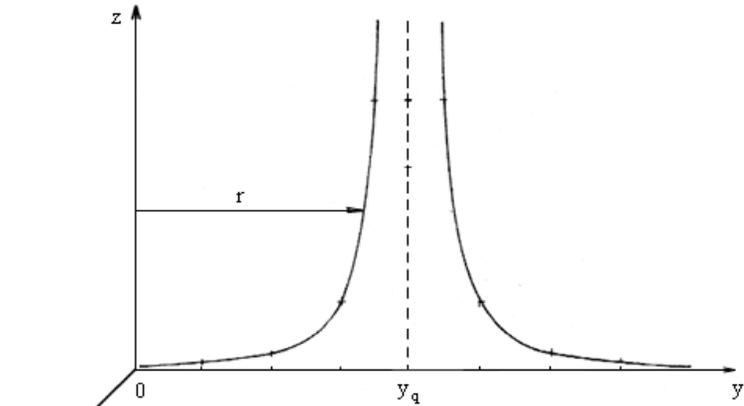
Fig. 2.7, 2.8., 2.9. 2.10 At level (x, y) section of the "hyperboloid" of the intensity for various speeds of the moving charge have a shape of **all types of Pascal's screw** stocks with charge at the beginning of the coordinates



Intensity of the Moving Charge Electric Field

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



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

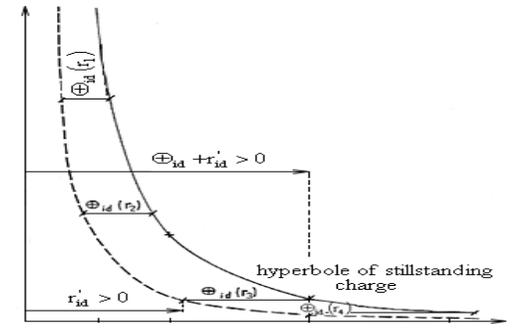
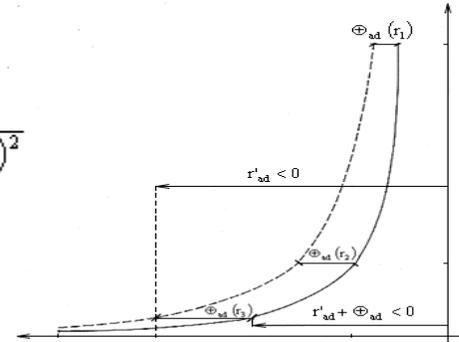
$$\oplus_{id} = v \cdot \Delta t_{id} = \frac{v(r - vt)}{c - v} = \frac{v}{c - v} r'$$

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

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

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

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



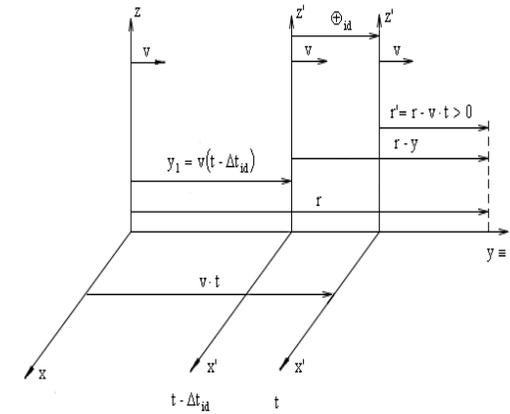
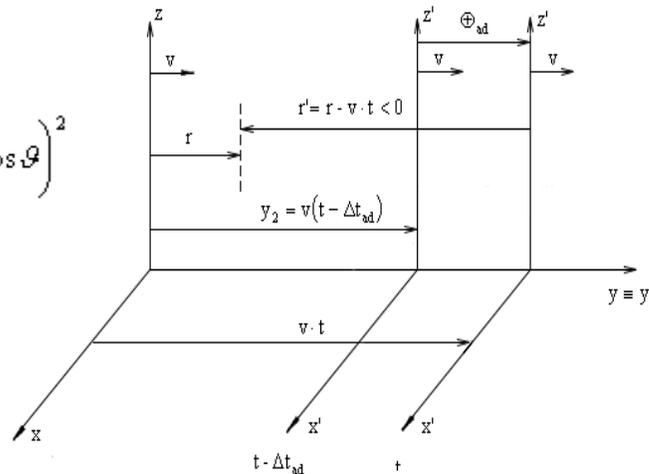
$$\frac{E_{mov}^{id}(r')}{E_{still}(r')} = \frac{r'^2}{(r' + \oplus_{id})^2} = \left(1 - \frac{v}{c}\right)^2$$

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

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

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

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



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

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: $g_{\text{mov}} = g_{\text{still}} \left(1 - \frac{v}{c} \cos \vartheta\right)^2$

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

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

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

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

For $\vartheta = 0^\circ$ we have the kinetic energy **in** the direction of motion

$$T_{\text{kin}_d} = mc^2 \left[\ln \left| 1 - \frac{v}{c} \right| + \frac{\frac{v}{c}}{1 - \frac{v}{c}} \right]$$

For $\vartheta = 180^\circ$ we have the kinetic energy **against** the direction of motion

$$T_{\text{kin}_a} = mc^2 \left[\ln \left| 1 + \frac{v}{c} \right| - \frac{\frac{v}{c}}{1 + \frac{v}{c}} \right]$$

If $0 < \frac{v}{c} = x \ll 1$ utilizing the series $\ln(1 \pm x)$
 $(1 \pm x)^{-1}$

$$T_{\text{kin}_d} = T_{\text{kin}_a} = \frac{1}{2} m v^2$$

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-ellipse (eccentricity $e \rightarrow 0$) 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^+ , n^0 , D , $He-3$, α).
- Action, as a motion of stable particles (e^- , p^+ , n^0 , D , $He-3$, α), is characterized by alternating acceleration and deceleration motion in the source, along ellipse or quasi-ellipse (eccentricity $e \rightarrow 0$).

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 **as particle** $T_{kin id} = mc^2[\ln |1-v/c| + (v/c)/(1-v/c)]$

- Reaction creates in the transmission medium, electromagnetic waves, as unstable "particles" - neutrinos ν_e , ν_μ , ν_τ , mesons π^0 , 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**.

CONFINEMENT OF QUARKS

- 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.

- **QUARKS = 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

CONFINEMENT OF QUARKS Up - Down

| v/c | $T_{kin id} = mc^2[\ln 1-v/c + (v/c)/(1-v/c)]$ | $T_{kin ad} = mc^2[\ln 1+v/c - (v/c)/(1+v/c)]$ |
|----------|--|--|
| 0.05875 | Down quark $T_{kin id} = 1.7550 \text{ MeV} / p$: [] = 0.0018704988039450329861777626124876 | Up quark $T_{kin ad} = 1.5 \text{ MeV} / p$: [] = 0.0015986835148543461794415692315 |
| 0.075 | Down quark $T_{kin id} = 2.92697671 \text{ MeV} / p$: [] = 0.0031195396113692225967210545118109 | Up quark $T_{kin ad} = 2.4 \text{ MeV} / p$: [] = 0.002553219719161004341317048303 |
| 0.081622 | Down quark $T_{kin id} = 3.5 \text{ MeV} / p$: [] = 0.0037302615346601410853636615401917 | Up quark $T_{kin ad} = 2.81404106871 \text{ MeV} / p$: [] = 0.0029991740444424494322328316937 |
| 0.08878 | Down quark $T_{kin id} = 4.18366235 \text{ MeV} / p$: [] = 0.0044589013511482922312132108807756 | Up quark $T_{kin ad} = 3.3 \text{ MeV} / p$: [] = 0.0035171037326795615947714523093 |
| 0.094686 | Down quark $T_{kin id} = 4.8 \text{ MeV} / p$: [] = 0.0051156918494022662432562213837619 | Up quark $T_{kin ad} = 3.72637 \text{ MeV} / p$: [] = 0.0039715278483606256196473452168 |
| 0.105065 | Down quark $T_{kin id} = 6 \text{ MeV} / p$: [] = 0.0063947340594173847177662769260429 | Up quark $T_{kin ad} = 4.530260 \text{ MeV} / p$: [] = 0.00482830150265965022910406573 |
| | 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 $m_0 = 70 - 130 \text{ MeV}/c^2$, $95^{+5}_{-5} \text{ MeV}/c^2$ [1]

$m_0 = 80-130 \text{ MeV}/c^2$, 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 $m_0 = 1.16-1.34 \text{ MeV}/c^2$, $m_0 = 1.29^{+0.05}_{-0.11} \text{ GeV}/c^2$ [1] Decays into Strange quark (~95%),

Down quark (~5%)[2][3]

| v/c | $T_{kin id} = mc^2[\ln 1-v/c + (v/c)/(1-v/c)]$ | $T_{kin ad} = mc^2[\ln 1+v/c - (v/c)/(1+v/c)]$ |
|---------|--|---|
| 0.713 | charm quark $T_{kin id} = 1.160 \text{ GeV} / p$: [] = 1.236047494268773255524413529431 | strange quark $T_{kin ad} = 114.485493763640 \text{ MeV} / p$: [] = 0.12201738104659464824870350196726 |
| 0.72585 | charm quark $T_{kin id} = 1.270 \text{ GeV} / p$: [] = 1.353558277163014343783820940418 | strange quark $T_{kin ad} = 117.41941 \text{ MeV} / p$: [] = 0.12514431408438967945446850497659 |
| 0.73333 | charm quark $T_{kin id} = 1.340 \text{ GeV} / p$: [] = 1.428157273269882586967801846816 | strange quark $T_{kin ad} = 119.1311 \text{ MeV} / p$: [] = 0.12696860023316592749751861919307 |
| | Quarks are actually locked (confinement) in proton | as is clear from the individual tables |

| v/c | $Tkin id = mc^2[\ln 1-v/c + (v/c)/(1-v/c)]$ | $Tkin ad = mc^2[\ln 1+v/c - (v/c)/(1+v/c)]$ |
|------------|---|---|
| 0.994766 | top quark $Tkin id = 173.4$ GeV / p: [] = 184.8078143171624183434454 | $Tkin ad = 179.9968678$ MeV / p: [] = 0.191838683558878228973 |
| 0.994637 | top quark $Tkin id = 169.1$ GeV / p: [] = 180.2249215745799592957129 | $Tkin ad = 179.96660877927$ MeV [] = 0.191806433786441122906 |
| 0.8665 | bottom quark $Tkin id = 4.2$ GeV / p: [] = 4.476313841592169302436394 | $Tkin ad = 149,9613333459543879$ MeV [] = 0.159827140990503087217669575 |
| 0.73333 | charm quark $Tkin id = 1.340$ GeV / p: [] = 1.4281572732698825869678018 | strange quark $Tkin ad = 119.1311$ MeV / p: [] = 0.12696860023316592749751861919307 |
| 0.72585 | charm quark $Tkin id = 1.270$ GeV / p: [] = 1.3535582771630143437838209404184 | strange quark $Tkin ad = 117.41941$ MeV / p: [] = 0.12514431408438967945446850497659 |
| 0.713 | charm quark $Tkin id = 1.160$ GeV / p: [] = 1.236047494268773255524413529431 | strange quark $Tkin ad = 114.4854937636$ MeV / p: [] = 0.12201738104659464824870350196726 |
| 0.105065 | Down quark $Tkin id = 6$ MeV / p: [] = 0.006394734059417384717766276926 | Up quark $Tkin ad = 4.530260$ MeV / p: [] = 0.0048283015026596502291040657295924 |
| 0.08878 | Down quark $Tkin id = 4.18366235$ MeV / p: [] = 0.004458901351148292231213210880775 | Up quark $Tkin ad = 3.3$ MeV / p: [] = 0.003517103732679561594771452309324 |
| 0.05875 | Down quark $Tkin id = 1.7550$ MeV / p: [] = 0.0018704988039450329861777626125 | Up quark $Tkin ad = 1.5$ MeV / p: [] = 0.0015986835148543461794415692315107 |

- 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** 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 Σ^+ (2645) 2646,6MeV and pion π^\pm : 139.57018(35) MeV are in the proton at speed of proton **$v= 0,819183027c$**
- hyperon Σ^- 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

$$W = W_{\text{coul}} \left(1 - \frac{v_1}{c} \cos \vartheta\right)^2 = \frac{1}{4\pi\epsilon_0} \frac{e^2}{r} \left(1 - \frac{v_1}{c} \cos \vartheta\right)^2$$

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

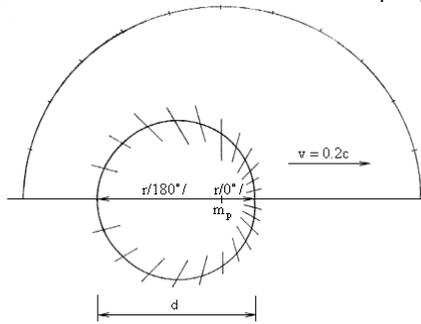
"The **bigger the impulse** (i. e. the higher speed, too) **the shorter force range radius.**"

"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.**



$$r_e = \frac{1}{4\pi\epsilon_0} \frac{e^2}{m_e c^2} \frac{\left(1 - \frac{v}{c} \cos \vartheta\right)^2 \cos^2 \vartheta}{\left[\ln \left| 1 - \frac{v}{c} \cos \vartheta \right| + \frac{\frac{v}{c} \cos \vartheta}{1 - \frac{v}{c} \cos \vartheta} \right]}$$

$$r_p = \frac{1}{4\pi\epsilon_0} \frac{e^2}{m_p c^2} \frac{\left(1 - \frac{v}{c} \cos \vartheta\right)^2 \cos^2 \vartheta}{\left[\ln \left| 1 - \frac{v}{c} \cos \vartheta \right| + \frac{\frac{v}{c} \cos \vartheta}{1 - \frac{v}{c} \cos \vartheta} \right]}$$

| v/c | $r(0^\circ)$ [fm] | $r(180^\circ)$ [fm] | d_p [fm] |
|---------------------|----------------------|---------------------------------|---------------------------------------|
| 10^{-6} (300m/s) | | | $3.06 \cdot 10^9$ |
| 10^{-3} (300km/s) | | | $6.12 \cdot 10^3$ (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>

Interesting: **Einstein's Theory of Relativity Can not Explain ...**

<http://vixra.org/pdf/1502.0184v1.pdf>

Movement principles of the **fast-spinning pulsars**, **Nuclear Fusion**,

Wave - Particle Duality as Kinetic Energy Against and In Direction of Motion

the **4th Maxwell's equation**, **Lorentz equals without the help of Space-Time**, **Confinement of quarks**, **Great Table of Elementary Particles**

Spectral line $H\alpha$, Neutrino Oscillations, **Non-linear Form of the interference field**

Asymmetrical Form of Intensity of the Moving Charge Electric Field

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

against direction of motion **as wave**, $T_{kin ad} = mc^2, [\ln |1+v/c| - (v/c)/(1+v/c)]$,

in direction of motion **as particle** $T_{kin id} = mc^2[\ln |1-v/c| + (v/c)/(1-v/c)]$

Yukawa potential

5. Spectral line $H\alpha$

<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.