Dynamics of Universe

Relative and absolute speed of light

Aberration of light - Apparent light speed

Explanation of Michelson-Morley experiment

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Abstract

On a previous paper (see http://viXra.org/abs/1410.0040) it is described the structure of the isotropic space of infinite dimensions by the electrically opposite elementary units (in short: units) and, also, it is described the spherical deformation of this isotropic space as a dynamic space of finite dimensions, the Universe. This first space deformation creates the cohesive forces, which cause the chaotic (huge) cohesive pressure. The allocation of these forces in the Universe, as a function of distance from the Universe center, will be developed in this paper.

The explanation of Michelson-Morley experiment is based on actual and apparent equal reduction of light speed. The actual reduction of light speed happens only when light is transmitted on material moving systems, on which the cohesive pressure P_0 of the proximal space is reduced. The aberration of light can be used as a detection criterion of the absolute motion. Lorentz factor is the result of a mathematical settlement of the problem encountered with the Michelson-Morley experiment. This same reduction factor (Lorentz factor) appears also in the Theory of Dynamic Space at the Galilean transformations, by calculating the actual reduction of the light speed on material moving systems, without the second postulate of Relativity.

1. Dynamics of Universe

On a previous paper (see http://viXra.org/abs/1410.0040) it is described the structure of the isotropic space of infinite dimensions by the **electrically opposite elementary units** (in short: **units**) and, also, it is described the **spherical deformation** of this **isotropic space** as a **dynamic space** of finite dimensions, the **Universe**. The **cubic cell** is the **elementary volume** or the **space quantum**, structured by the **electric dipoles** (*figure 1*). It is obvious that this spherical deformity of space has distorted the cell-cubes. So, the **electric dipoles** lengthen more, away from the **Universe center** to its **periphery**, with result the development of stronger **cohesive forces**. This is because the force of the electric dipole $F=kL_0$ is proportional to the **dipole length** L_0 between the units**.** Therefore, the cohesive pressure P_0, developed by forces of the electric dipoles, is altered and increasing from the center to the **Universe periphery**, the same way that the distance L_0 of the units is increasing. In our region the force F of the electric dipole is measured at the amazing value (see previous link) $F=F_x=0,242\cdot10^{43}N$ and is, of course, the cause of the **space cohesiveness**.

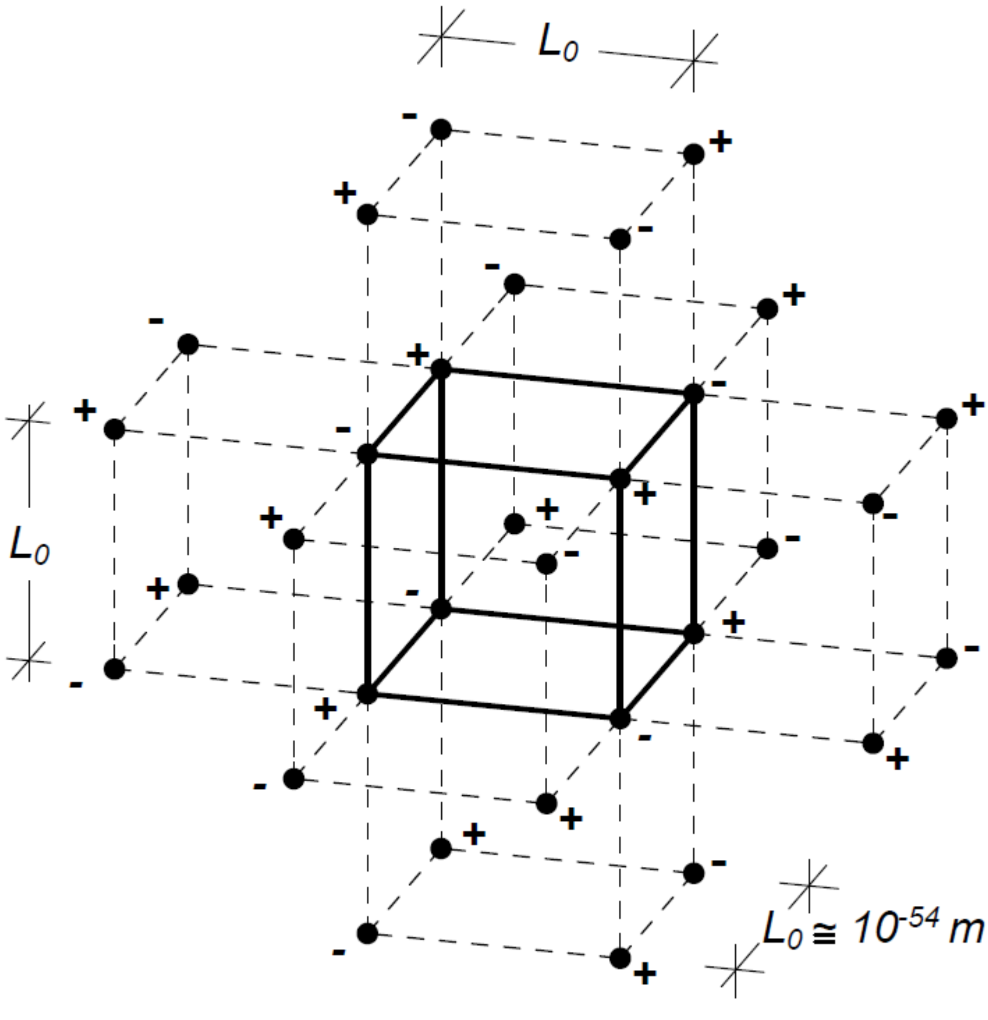

Figure 1*: The cubic cell as an elementary volume-quantum of isotropic space, which has the form of infinite-dimensional cubic grid*

Using the mechanical analog of a maximum circle of Universe section and by studying the dynamics of the **elastic stretched circular membrane**, the cohesive pressure P_{0x} of a region at a distance x from the Universe center with a **constant radius** R_0 will be calculated, as a function of the **constant cohesive pressure** P_{0p} at the Universe periphery ($P_{0x}=P_{0p}\frac{x^2}{{R_0}^2}$).

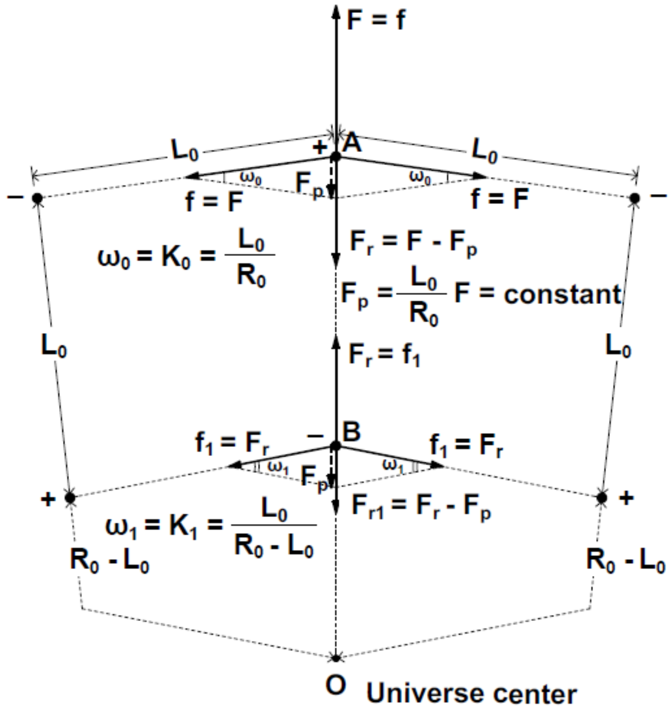

Figure 2: *The elementary external force F (at the Universe periphery) is balanced by the radial force F_r (transferred to the underlying radial edge) and by the peripheral constant force F_p, which consists of two peripheral components $f=F$, due to the curvature $K_0=\frac{L_0}{R_0}=\omega_0$*

The **elementary external force** F, as a part of the **total external force**, is applied upon node A of the **dipoles** (*figure 2*) and is balanced by the **radial force** F_r (transferred to the underlying **radial edge**) and by the **peripheral force** F_p (consisting of two **peripheral components** f), so that $F = F_p + F_r$.

It is noted that, the **curvature** on the dynamic space of Universe is defined as $K_x=\frac{L_0}{x}=\omega_x$, where L_0 the elementary length of the electric dipole, ω_x the **central angle** which faces the **edge** L_0 at a distance x from the Universe center. In our calculations, we consider that L_0 is constant over a wide area of the Universe.

In the Universe periphery of radius R_0 it will be $F_p=K_0F$, i.e. the peripheral force F_p is proportional to the external force F and to the curvature $K_0=\frac{L_0}{R_0}=\omega_0$, which is the cause of the lateral deviation of the forces. Thus it is $F_p=K_0F=\frac{L_0}{R_0}F \Rightarrow F_p=\frac{L_0}{R_0}F$, whereby both the peripheral components are $f=\frac{F_p}{2sin^{\omega_0}/_2}=\frac{F_p/2}{\omega_0/2}=\frac{F_p}{\omega_0}=\frac{F_p}{K_0}=\frac{R_0}{L_0}F_p \Rightarrow f=\frac{R_0}{L_0}F_p$ and for $F_p=\frac{L_0}{R_0}F \Rightarrow f=F$. This equality of peripheral components f with the external radial attractive force F is obvious. Throughout the Universe there is an equality of peripheral and radial forces, corresponding to the elastic changes of lengths $\Delta l=2\pi\cdot\Delta x$ of concentric peripheries that are proportional to distance x from the Universe center ($l=2\pi x$).

The radial force F_r=F-F_p $\Rightarrow$ F_r=F-$F\frac{L_0}{R_0}$=$(1-\frac{L_0}{R_0})F$ $\Rightarrow$ F_r=$\frac{R_0/L_0-1}{R_0/L_0}F$ is transferred to the next underlying radial edge (on node B), so that the peripheral force will be F_{p1}=K_1F_r and for K_1=$\frac{L_0}{R_0-L_0}$ $\Rightarrow$ K_1=$\frac{1}{R_0/L_0-1}$ $\Rightarrow$ F_{p1}=$\frac{F_r}{R_0/L_0-1}$ and substituting therein the F_r=$\frac{R_0/L_0-1}{R_0/L_0}F$ we find F_{p1}=$\frac{L_0}{R_0}F$ $\Rightarrow$$F_{p1}$=$F_p$.

Consequently, the peripheral force F_p is transported constant throughout the Universe. However, the components of F_p are reduced towards the Universe center and are equal to the corresponding radial force. Thus, the increase of the Universe curvature is the cause that reduces the respective peripheral components f of the **resultant constant force** F_p= $\frac{L_0}{R_0}F$.

Hence, the radial force F_{r1} will be F_{r1}=F_r-F_p and substituting therein F_r=$\frac{R_0/L_0-1}{R_0/L_0}F$ and F_p=$\frac{L_0}{R_0}F$ we find F_{r1}=$\frac{R_0/L_0-1}{R_0/L_0}F-\frac{L_0}{R_0}F$=$\frac{R_0/L_0-1}{R_0/L_0}F\frac{L_0/R_0}{L_0/R_0}-\frac{L_0}{R_0}F$=$F$-$2\frac{L_0}{R_0}F$=$F$-$2F_p$ $\Rightarrow$ F_{r1}= F-$2F_p$ $\Rightarrow$ F_{r1}=F-$(\frac{R_0}{L_0}-\frac{R_0-2L_0}{L_0})F_p$. Also, it is F_{r2}=F_{r1}-F_p and substituting therein F_{r1}=F-$2F_p$ we find F_{r2}=F-$3F_p$=F-$(\frac{R_0}{L_0}-\frac{R_0-3L_0}{L_0})F_p$ $\Rightarrow$ F_{r2}=F-$(\frac{R_0}{L_0}-\frac{R_0-3L_0}{L_0})F_p$. Therefore, at a distance x from the Universe center the radial force F_{rx} can be found if we deduct from the external force F the number $\frac{R_0}{L_0}-\frac{x}{L_0}$ of reductions times the force F_p, namely it is F_{rx}=F-$(\frac{R_0}{L_0}-\frac{x}{L_0})F_p$ and for F_p=$\frac{L_0}{R_0}F$ we find F_{rx}=F- $(\frac{R_0}{L_0}-\frac{x}{L_0})\frac{L_0}{R_0}F$ $\Rightarrow$$F_{rx}$=$\frac{x}{R_0}F$.

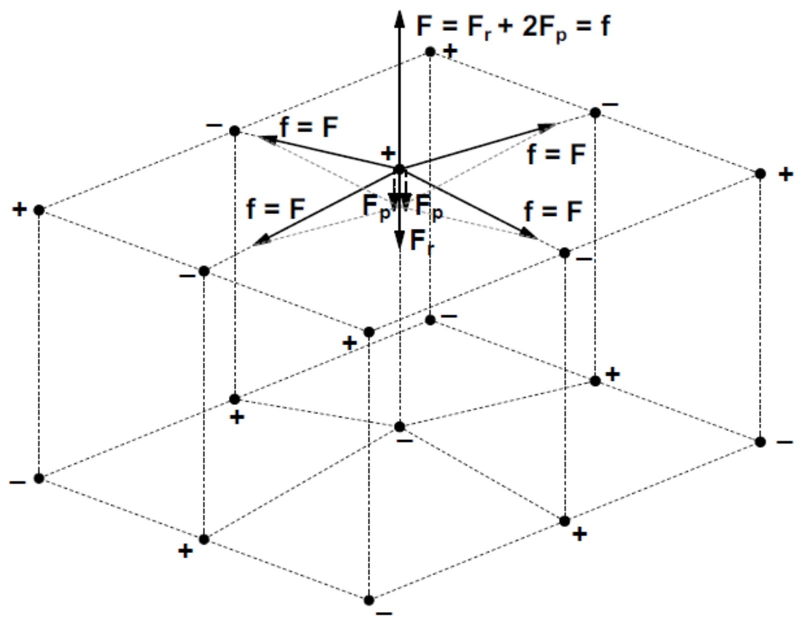

Figure 3: *The elementary external force F (at the Universe periphery) is balanced by the radial force F_r (transferred to the underlying radial edge) and by the two peripheral constant forces F_p, which consist of two pairs of peripheral components (where every f=F)*

In the **spherical three-dimensional space**, the **cell seats** are oriented as tangents to the Universe peripheries and as verticals to its radii. Therefore, at the limits of Universe, the peripheral force consists of two pairs of peripheral components (where every f=F) at the tangent level of the periphery and is deducted twice ($2F_p$) from the external force F, so that is equal to the corresponding radial force F_r (*figure 3*), i.e. it is F_r=F-$2F_p$ and for $F_p=\frac{L_0}{R_0}F$ we have $F_r=F-2\frac{L_0}{R_0}F=(1-2\frac{L_0}{R_0})F \Rightarrow F_r=f_1=\frac{R_0/L_0-2}{R_0/L_0}F$.

The next underlying peripheral force F_{p1} is $F_{p1}=K_1F_r$ where $K_1=\frac{L_0}{R_0-L_0}$ $\Rightarrow$ $K_1=\frac{1}{R_0/L_0-1}$ so $F_{p1}=\frac{R_0/L_0-2}{R_0/L_0-1}\cdot\frac{1}{R_0/L_0}F$. Therefore it is $F_{r1}=f_2=F_r-2F_{p1}$ $\Rightarrow$ $F_{r1}=f_2=\frac{R_0/L_0-2}{R_0/L_0}F-2\frac{R_0/L_0-2}{R_0/L_0-1}\cdot\frac{1}{R_0/L_0}F \Rightarrow F_{r1}=f_2=\frac{R_0/L_0-2}{R_0/L_0-1}\cdot\frac{R_0/L_0-3}{R_0/L_0}F$.

The same way, we found at the next **peripheral zone** $F_{r2}=f_3=\frac{R_0/L_0-3}{R_0/L_0-1}\cdot\frac{R_0/L_0-4}{R_0/L_0}F$ and therefore, at the peripheral zone at a distance x from the Universe center, that it is $F_{rx}=f_{x+1}=\frac{x/L_0}{R_0/L_0-1}\cdot\frac{x/L_0-1}{R_0/L_0}F$.

In the above, it is obvious the replacement of $\frac{x}{L_0}-1$ and $\frac{R_0}{L_0}-1$ with $\frac{x}{L_0}$ and $\frac{R_0}{L_0}$ respectively, whereby we have $F_{rx}=f_{x+1}=F\frac{x^2/L_0^2}{R_0^2/L_0^2} \Rightarrow F_{rx}=f_{x+1}=F\frac{x^2}{R_0^2}$. So, with this relationship the established equal radial and peripheral forces of the **lattice dynamic space** are proportional to the square of the distance x from the Universe center. These radial and peripheral forces, which stretch the **cell edges**, they stretch the cell seats, that are the **elementary surface area** L_0^2. Therefore, they are identical, of course, with cohesive pressure P_{0x} at a distance x from the Universe center, i.e. it is $F_{rx}=f_{x+1}=P_{0x}$.

The same happens at the **Universe limits**, where the external force F stretches the external peripheral cell-seat of an elementary surface area L_0^2. So, this external force F is identical with the cohesive pressure P_{0p} at the Universe periphery, namely it is $F=P_{0p}$. Substituting $F_{rx}=f_{x+1}=P_{0x}$ and $F=P_{0p}$ in the above formula $F_{rx}=f_{x+1}=F\frac{x^2}{R_0^2}$ the cohesive pressure of a region at a distance x from the Universe center becomes $P_{0x}=P_{0p}\frac{x^2}{R_0^2}$.

2. Relative and absolute speed of light

On links http://viXra.org/abs/1505.0211 and http://viXra.org/abs/1507.0079 it is described the **motion** of **charged** and **uncharged particles**, which takes place by accumulation of forces on pairs of **vertical meridians** of the **particle spherical zone**, as a result of **pressure difference** ΔP, which is placed in front of and behind the particle. Therefore, at the **motion formations** the **residual cohesive pressure** is P=P_0-ΔP, where ΔP the **motion arrow** of the motion formation and P_0 the cohesive pressure far from the motion formation.

The **light speed** C_0 far from the motion formation (see http://viXra.org/abs/1410.0040) is $C_0=\sqrt{\frac{P_0}{d_m}} \Rightarrow C_0^2=\frac{P_0}{d_m}$, while the speed u of the motion formation is $u=\sqrt{\frac{\Delta P}{d_m}} \Rightarrow u^2=\frac{\Delta P}{d_m}$ (see http://viXra.org/abs/1507.0079), where d_m the **mass density** of **space**. The **relative light speed** at the motion formation is $C_r=\sqrt{\frac{P}{d_m}} \Rightarrow C_r^2=\frac{P}{d_m} \Rightarrow C_r^2=\frac{P_0-\Delta P}{d_m}=\frac{P_0}{d_m}-\frac{\Delta P}{d_m}$ $\Rightarrow C_r^2=C_0^2-u^2 \Rightarrow C_r=\sqrt{C_0^2-u^2} \Rightarrow C_r=C_0\sqrt{1-\frac{u^2}{C_0^2}}$. Hence, the relative light speed C_r in a **moving material system** is reduced irrespective of the direction of motion by the **reduction factor** $\sqrt{1-\frac{u^2}{C_0^2}}$.

Of course, if ω is the angle between C_0 and speed u of moving system, then the relative light speed C_r (*figure 4*) is $C_r=\sqrt{C_0^2-u_x^2}$, where $u_x=u\cos\omega$. Namely, only the parallel to light speed C_0 component u_x causes an **actual reduction** of C_0, due to reduction of the cohesive pressure P_0, while the vertical component u_y causes an **apparent reduction** of C_0, due to **aberration** of **light**, as it will be described at the following paragraph 3.

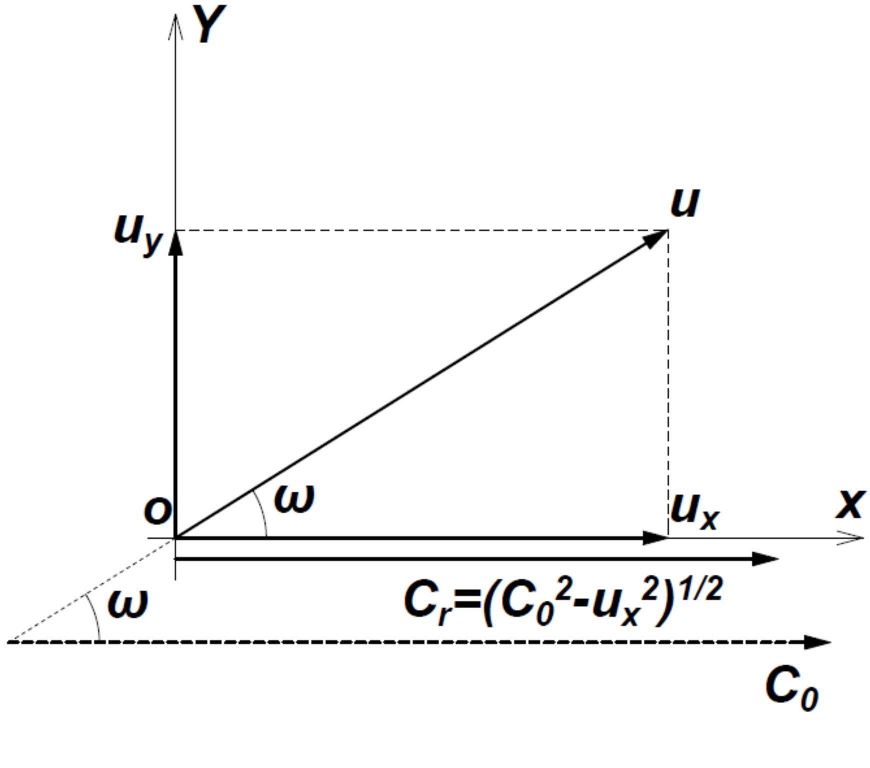

Figure 4: *Component u_x causes an actual reduction of C_0*

Given that the relative light speed $C_r=\sqrt{C_0^2-u^2}$ is a function of speed u (that imposes the motion arrow) of the moving system, it is expected the **absolute light speed** to be the algebraic sum of u and C_r, i.e. it is $C=C_r \pm u \Rightarrow C=\sqrt{C_0^2-u^2} \pm u$. So, for light there is no need to apply **Lorentz transformations** (since it is $C_r<C_0$), but **Galilean transformations**, as they apply at the motion of **material bodies** in moving systems.

3. Aberration of light - Apparent light speed

When light moves far from **dynamic fields** (e.g. **electrical** or **gravitational fields**) or in regions where the **Cosmic change** of cohesive pressure P_0 is negligible, then it moves in straight line and any aberrance from this straight line defines the phenomenon of aberration of light. This phenomenon is caused at the apparent aberration and the change of light speed, due to the absolute motions of either the observer, or the light source, or both. In figure 5a, where the observer and the light source are stationary, the observer at point O observes the E/M waves from light source S transmitted by the laser device.

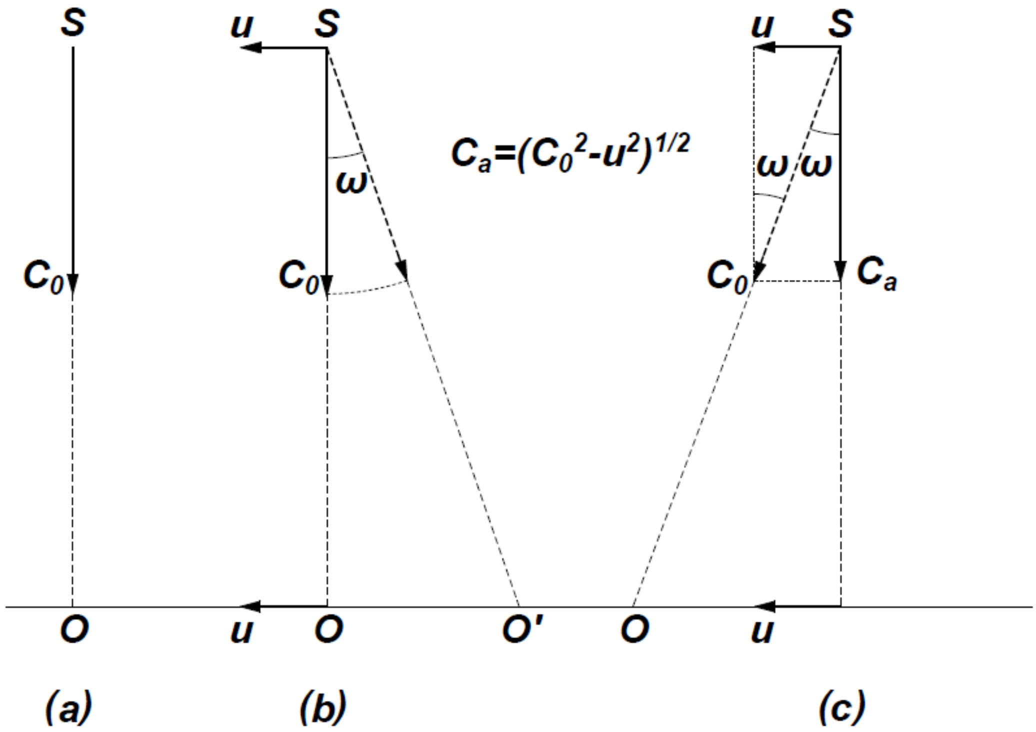

Figure 5: *The aberration of light causes an apparent reduction of light speed*

In Figure 5b **light source** and observer are moving in parallel at speed u, vertically to the emitted laser beam, resulting the footprint of the beam to be left behind the observer, since the motion of the light source does not affect the **autonomous motion** of the **E/M waves** (see http://viXra.org/abs/1511.0025). Therefore, the aberration of light can be used as a **detection criterion** of the **absolute motion**. The laser beam must turn oppositely at an angle ω (*figure 5c*), so that the component be $C_a = C_0 \cos\omega$ or $C_a = \sqrt{C_0^2 - u^2} \Rightarrow C_a = C_0\sqrt{1 - \frac{u^2}{C_0^2}}$ Then, the moving observer can see the light, with the so called **apparent light speed** C_a.

It is noted that the **apparent change** of **light speed** C_0 is reduced by the same reduction factor $\sqrt{1 - \frac{u^2}{C_0^2}}$, as in the actual reduction of C_0 (see paragraph 2), i.e. when light moves to the direction of the moving system. Here, the **vertical motion** of the system does not cause an actual change of light speed, but an apparent change, due to the aberration of light. Therefore, in case light moves to the direction or opposite of the moving system, an actual reduction of C_0 occurs, due to reduction of the cohesive pressure P_0, while in case light moves to the vertical direction of the moving system, an apparent reduction of C_0 occurs by the same reduction factor $\sqrt{1 - \frac{u^2}{C_0^2}}$, but here due to the aberration of light, that is

$C_r = C_a = C_0\sqrt{1-\frac{u^2}{C_0^2}}$. The explanation of **Michelson-Morley experiment** is based on actual and apparent equal reduction of light speed.

4. Explanation of Michelson-Morley experiment

We shall now explain the Michelson-Morley experiment, as a result of the actual and apparent equal reduction of light speed in the moving systems. It was expected the **differential phase shift** between light traveling the longitudinal versus the transverse arms of the **Michelson interferometer**.

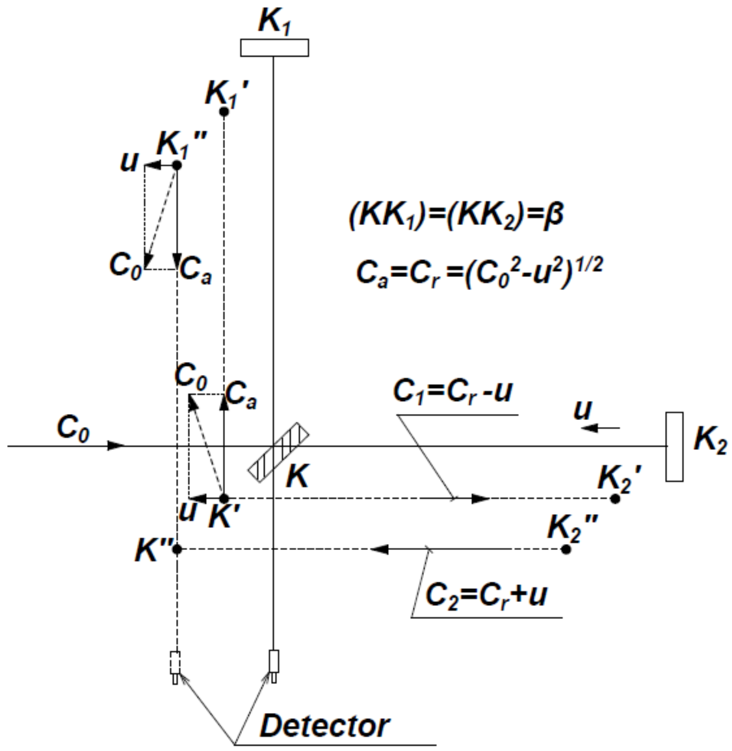

Figure 6: *Schematic representation of Michelson interferometer. For the stationary observer C_1=C_r-u and C_2=C_r+u are the absolute light speeds on arm (KK_2)=β and C_a=$\sqrt{C_0^2-u^2}$ is the apparent light speed on arm (KK_1)=β, due to the apparent reduction of light speed, where $C_r = \sqrt{C_0^2-u^2}$ is the relative light speed on arm (KK_2)=β, due to the actual reduction of light speed and u is the speed of interferometer (Earth)*

For a **stationary observer** the **total time** T_1 on arm KK_1, where occurs an aberration of light (see paragraph 3), is $T_1=2\beta/C_a$, i.e. $T_1=2\beta/\sqrt{C_0^2-u^2}$ and the total time T_2 on arm KK_2, using the Galilean transformations, is $T_2=2\beta C_0/(C_0^2-u^2)$. Dividing by parts, it is $\frac{T_1}{T_2}=\sqrt{1-\frac{u^2}{C_0^2}}<1 \Rightarrow T_1<T_2$. This theoretical result is not verified by the experiment, since the **superposition** of the **two parts** of **monochromatic light** is maintained, which happens only, if $T_1=T_2$. Therefore, something happens with behavior of light.

This experimental result was the cause for the creation of **Theory** of **Special Relativity** and for the acceptance of Lorentz transformations for light. The **time dilation** and the definition of time as a **physical entity** in the **space-time continuum** is the consequence of this acceptance. Time, however, is defined as motion of the elementary units at light speed (see http://viXra.org/abs/1502.0097), by which **matter** and **motion** are constructed, as the **unique phenomena** of **Nature**.

The stationary observer calculates that, the absolute light speed C_1 (see paragraph 2) on arm KK_2, is $C_1=C_r-u$ (1) and $(KK_2')=C_1t_1$ (2), where t_1 the **motion time** of the **interferometer** at **speed** u, covering the distance K_2K_2'(*figure 6*). Substituting in formula (2) the formula (1) and $(KK_2')=\beta-ut_1$ is $(C_r-u)t_1=\beta-ut_1$, where $\beta=(KK_2)$, thus $t_1=\beta/C_r$ and $C_r=\sqrt{C_0^2-u^2}$ the relative speed on arm KK_2, due to the actual reduction of C_0 (see paragraph 2). Accordingly, $t_1=\beta/C_r \Rightarrow t_1=\beta/\sqrt{C_0^2-u^2}$.

The time on arm KK_1 is $t_1'=\beta/C_a=\beta/C_r$, as it is t_1 on arm KK_2, namely $t_1'=t_1=\beta/\sqrt{C_0^2-u^2}$, due to the apparent reduction of C_0 (see paragraph 3) and t_2' the return time on arm KK_1 with an apparent reduction of C_0, that is $t_2'=\beta/\sqrt{C_0^2-u^2}$.

At the return of light (on arm K_2K), covering the distance $(K_2'K'')=(K_2'K_2'')+(K_2''K'')$ at time t_2 of **interferometer motion**, when covering the distance $K_2'K_2''$ with speed u. If C_2 the absolute light speed, then $C_2t_2=ut_2+\beta$, where $\beta=(K_2''K'')$ and for $C_2=C_r+u$ (see paragraph 2), whereby $C_rt_2+ut_2=ut_2+\beta \Rightarrow t_2=\beta/C_r$, where $C_r=\sqrt{C_0^2-u^2}$ the actual reduction of C_0 (see paragraph 2). Accordingly, $t_2=\beta/C_r$ becomes $t_2=\beta/\sqrt{C_0^2-u^2}=t_2'$, where t_2' the return time on arm KK_1 with an apparent reduction of C_0 (see paragraph 3). It is, therefore, $t_1=t_1'=t_2=t_2'=\beta/\sqrt{C_0^2-u^2}$ the same time on arms KK_1 and KK_2 of interferometer. The total time on arm KK_1 is $T_1=t_1'+t_2'=2\beta/\sqrt{C_0^2-u^2}$ as much as on arm KK_2, namely it is $T_2=t_1+t_2=2\beta/\sqrt{C_0^2-u^2}=T_1 \Rightarrow T_1=T_2$ and for this reason the superposition of the two parts of the monochromatic light is maintained.

A similar **explanation** of Michelson-Morley experiment applies if the observer is on the moving system, i.e. on the **Earth**. Consequently, the Michelson-Morley experiment was explained on the basis of actual and apparent reduction of light speed. Therefore, in case that light moves to the direction or the opposite of the moving system, an actual reduction of C_0 occurs, due to the reduction of the cohesive pressure P_0. In case light moves to the vertical direction of the moving system, an apparent reduction of C_0 occurs by the same reduction factor, but here due to the aberration of light. Hence, it always applies $C_r=C_a=C_0\sqrt{1-\frac{u^2}{C_0^2}}$.

5. The slowing of moving clocks

Assuming a clock on a **material moving system**, with an **oscillation period** $T=2\pi\sqrt{\frac{m}{D}}$ and a **force constant** $D=F/x$, then the relationship $\frac{T_0}{T}=\sqrt{\frac{D}{D_0}}=\sqrt{\frac{P}{P_0}}$ applies, since the reduction of **elastic forces** of **oscillations** in **material bodies** takes place to each direction, due to the **residual cohesive pressure** $P=P_0-\Delta P$ (see paragraph 2), where T_0 the oscillation period of a **stationary clock**.

Timeless speed (see http://viXra.org/abs/1507.0079) of the moving system, with linear speed u is $u_a = \frac{u}{C_0} = \sqrt{\frac{\Delta P}{P_0}} \Rightarrow \frac{C}{C_0} = \sqrt{1-\frac{u^2}{C_0^2}} = \sqrt{1-\frac{\Delta P}{P_0}} = \sqrt{\frac{P_0-\Delta P}{P_0}} = \sqrt{\frac{P}{P_0}}$ and therefore, is $\sqrt{\frac{P}{P_0}} = \sqrt{1-\frac{u^2}{C_0^2}}$ and due to $\frac{T_0}{T} = \sqrt{\frac{P}{P_0}}$, it is $\frac{T_0}{T} = \sqrt{1-\frac{u^2}{C_0^2}} = 1/\gamma \Rightarrow \frac{T}{T_0} = \gamma > 1 \Rightarrow T > T_0$, where $\gamma = 1/\sqrt{1-\frac{u^2}{C_0^2}}$ as symbolized in Theory of Relativity. So, the **moving clock** with the longest oscillation period T slows down compared to stationary clock with oscillation period T_0.

6. Consequences due to slowing of the moving clocks

The stationary observer on reference system of **Ether** (Michelson-Morley experiment), calculates a reduced time $t = t'\sqrt{1-\frac{u^2}{C_0^2}}$, where t' is the time measured by an observer on Earth. For $\gamma = 1/\sqrt{1-\frac{u^2}{C_0^2}} > 1$ the previous formula becomes $t/t' = \sqrt{1-\frac{u^2}{C_0^2}} = 1/\gamma \Rightarrow t = t'/\gamma$ and, therefore, $t < t'$.

For an observer on Earth light has traveled a distance L', while for an observer on Ether light has traveled a distance L, so it is $L = L'\sqrt{1-\frac{u^2}{C_0^2}}$, namely distance L is reduced by the known reduction factor $\sqrt{1-\frac{u^2}{C_0^2}} = 1/\gamma$ and substituting this in above formula, it is $L = L'/\gamma$.

However, the light speed C measured from the stationary observer (on Ether), is $C = L/t$ and substituting therein $L = L'/\gamma$ and $t = t'/\gamma$, it is $C = \frac{L'/\gamma}{t'/\gamma} = \frac{L'}{t'}$, wherein $L'/t' = C'$ light speed measured by the observer on Earth. Therefore $C = C'$, namely the light speed C looks as a constant (seemingly) on the moving system (Earth), but in reality it has been reduced! This **equality** of **light speeds** arose, because the light speed C' reduced by a factor $\sqrt{1-\frac{u^2}{C_0^2}}$ is measured by a clock that slows down, due to the longest oscillation period T (with $T > T_0$) by the same factor $\sqrt{1-\frac{u^2}{C_0^2}}$, according to the formula $T/T_0 = 1/\sqrt{1-\frac{u^2}{C_0^2}} > 1 \Rightarrow T > T_0$ (see paragraph 5).

7. Epilogue of Michelson-Morley experiment

The time dilation and the definition of time as a physical entity (**fourth dimension**) in the space-time continuum is the result of the incorrect interpretation of the Michelson-Morley experiment and the **phenomenon** has since remained without **physical explanation**. So, the Lorentz transformations have been accepted, ignoring the **real cause** of the slowing of the moving clock (see paragraph 5). In addition, the **experimental result** of increased life of fast **moving muons** is used as a proof of Relativity Theory. However, the Theory of Dynamic Space clearly outlines the **structure** of **particles** and their **motion** (see link in paragraph 5), which decreases the cohesive pressure of the **proximal space**. So, the **cortex** of muon (see http://viXra.org/abs/1502.0097) resists easier to the reduced attraction of cohesive pressure, thus **slowing** their **decay** and **prolonging** their **life**.

In the question «Why Theory of Relativity has **correct applicable results**? », the following answer is given:

The reduction factor $\gamma=1/\sqrt{1-\frac{u^2}{c_0^2}}$ (Lorentz factor) is the result of a **mathematical settlement** of the **problem** encountered with the Michelson-Morley experiment. This same reduction factor appears also in the Theory of Dynamic Space at the Galilean transformations, by calculating the actual reduction of the light speed on material moving systems. So, Lorentz transformations prove correct, but without the **second postulate** of Relativity and therefore, the Relativity Theory has correct applicable results. However, the application of Galilean transformations is preferable, at calculating the relative speed of light on the material moving systems. Moreover, the application of the Lorentz transformations on imaginary (**non-material**) systems can lead to unreasonable results. The actual reduction of light speed happens only when light is transmitted on material moving systems, on which the cohesive pressure P_0 of the proximal space is reduced.

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