

Experiments to determine the mass related Lightspeed extinction volume around the Earth and around spinning objects in the Lab.

Leo Vuyk,
Architect,
Rotterdam, the Netherlands.

Abstract,

According to Einstein's relativity theory, is the speed of light for every observer the same in all reference frames.

However, there seem to be incidental differences in the lightspeed if we observe the outliers of GPS satellite to CHAMP satellite distance measurements of 180m.

At the same time in the literature I found tiny structural but characteristic unexplained irregularities in Planetary radar-pulse reflection measurements, made by I.I. Shapiro in 1964, between the Earth and Venus.

Both observations support the idea of the existence of ellipsoidal lightspeed extinction (or vacuum adaptation) volumes around massive objects like the earth. Such a volume I will call LASOF or Local Asymmetric Oscillating Vacuum Frame.

Other historic lightspeed experiments support the idea that all objects with mass are equipped with some extinction volume.

As a consequence I propose new triangular trajectory lightspeed comparison experiments between the earth and dual satellites or dual balloons and even in the laboratory to support these lightspeed extinction and adaptation ideas.

Introduction.

According to the famous Michelson and Morley (M&M) lightspeed experiment, the null result could be explained by the Lorentz contraction of the apparatus in the direction of the Motion of the Earth through the light medium reference frame. However, due to the perfect

one-way GPS signal speed measurements we make today at elevations of more than 5 degrees above the horizon, we know now with certainty, that the one-way lightspeed around the Earth is really constant related to the GPS system..

However, there seem to be incidental differences in the lightspeed if we observe the outliers of GPS satellite to CHAMP satellite distance measurements of 180m.

At the same time in the literature I found tiny structural but characteristic unexplained irregularities in Planetary radar-pulse reflection measurements, made by I.I. Shapiro in 1964, between the Earth and Venus.

Both observations support the idea of the existence of ellipsoidal lightspeed extinction (or vacuum adaptation) volumes around massive objects like the earth.

This introduces the possibilities of a tiny diurnal lightspeed effect at higher altitudes like mountain summits like Dayton Miller made around 1926 at mount Wilson. (ref 1,2.)

Dayton Miller made the same M&M measurements (1926, within a horizontal plane, thus also less than 5 degrees elevation) but in contrast with M&M on a high mountain summit of Mount Wilson. His results are pointing into a direction of some (anti-Einstein) diurnal Reference Frame effect (lightspeed or contraction effect).

As a consequence it should be still an scientific obligation, to search for subtle flaws in lightspeed measurements, such as low elevation GPS measurements (with elevations less than 5 degrees), Satellite to Satellite measurements (the Champ or Grace satellites should be capable), Improved Babcock and Bergman Light Carrousel experiments, or signal interference of two signals between two mountain (or two Tower/High Riser) Summits as dr. Yu. M. Galaev did (Ref 3) see also : "6 experiments by Leo Vuyk; (ref 4)

If we postulate that each fast moving mass carrying particle "drags" the lightspeed over only a very small "mass dependent distance of extinction" about 1 cm , in radial direction of the particle, then the Massive Earth could "drag" the lightspeed in radial directions to the Earth, with a much longer distance of extinction related to the Solar reference frame.

This Distance of extinction is coined: **LASOF** (Local Anti-Symmetric Oscillating vacuum Frame). As a consequence, the LASOF is the origin of this new "scale and mass dependent drag effect of the lightspeed" which can be supposed to be the base for the so called isotropy of the lightspeed Postulated by Einstein. Consequently also the Sun is supposed to have its own LASOF inside the Galaxy LASOF.

Thus with the LASOF postulate we seem to have realistic base for new lightspeed experiments falsifying Einstein's lightspeed Postulate as described below.

Experiment 1:

GPS anomaly for GPS satellite to CHAMP satellite signals.

.LASOF= Local Anti-Symmetrical Oscillating Vacuum Frame (See addendum page 7-13).

A clear example of GPS failure for sat-sat signals at higher altitudes (CHAMP: 430 km, GPS: 20.000km) Kinematic orbit solution comparison showing GPS data outliers up to 180 meters, (2x) during a CHAMP flight long 24 hours with 15 earth revolutions in 2003.

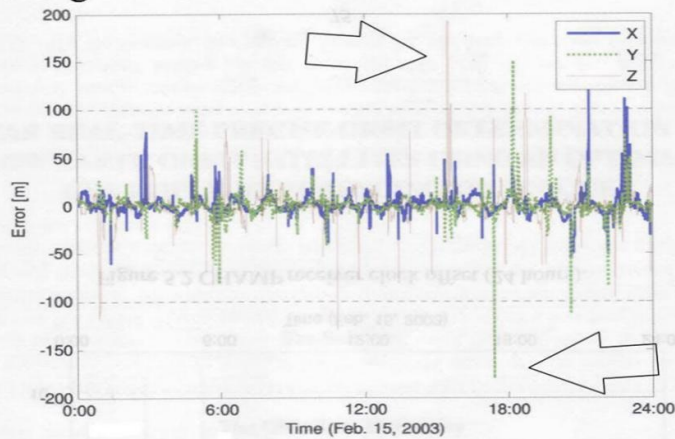


Figure 5.3 Comparison of the absolute kinematic orbit solution, w.r.t. RSO.

Estimation of the LASOF ellipsoid minor axis based on maximum outliers (180m) found in Champ satellite GPS distance measurements. According to Quantum FFF theory.

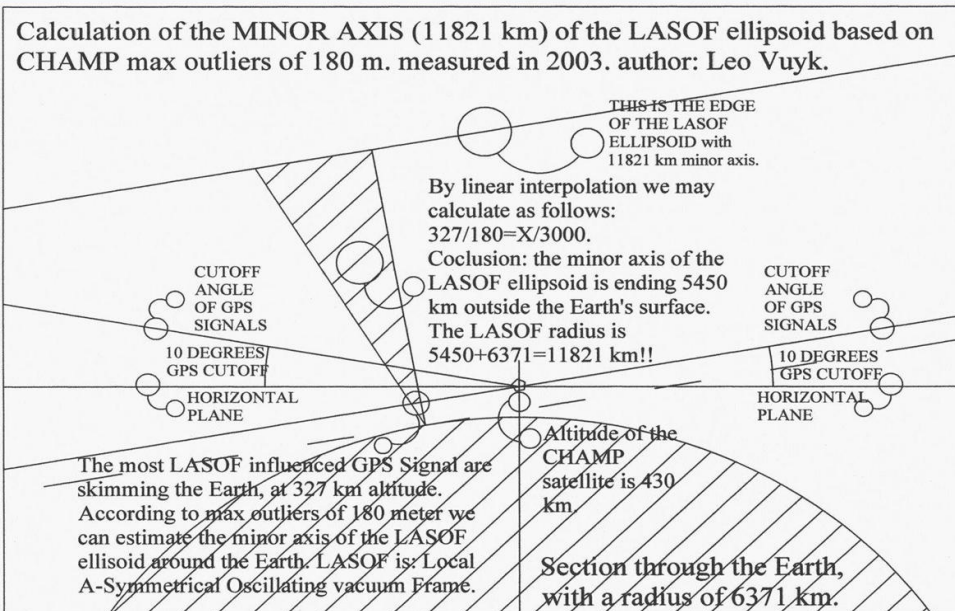


Figure 1, Estimation of the LASOF ellipsoid minor axis based on maximum outliers (180m) found in Champ satellite GPS distance measurements. According to Quantum FFF theory.

Outlier comparison (above) of the absolute kinematic orbit solution, w.r.t. RSO.

by: Tae Suk Bae, 2003, Ohio State university

Experiment 2.

Structural anomalies in radar reflection data for Planetary radar-pulse reflection measurements, made by I.I. Shapiro in 1964, between the Earth and Venus and Mercury.

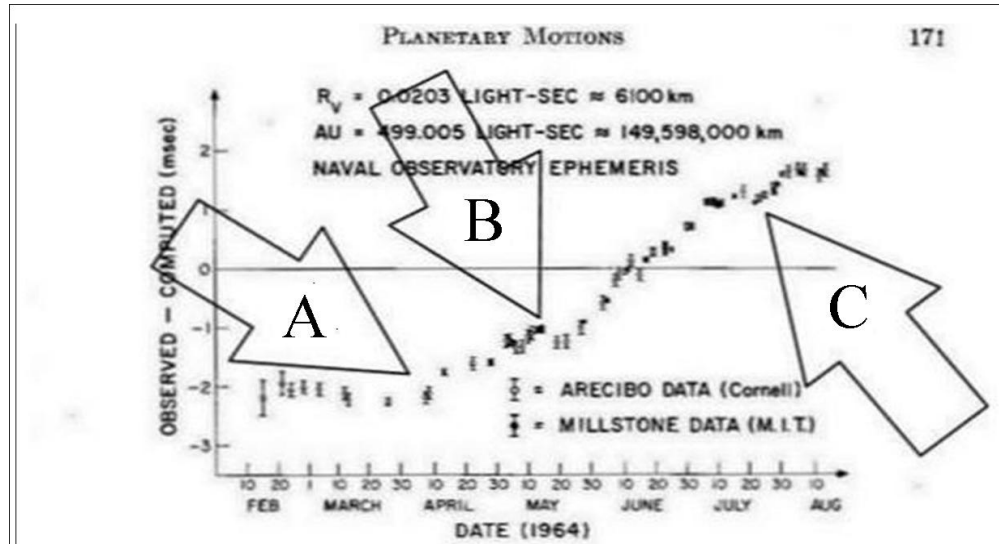


Fig. 3-4. Earth-Venus time-delay residuals resulting from comparison of radar observa-

Bumps in time delay are related to moments of overlap of both LASOFs (Venus and Earth): 10 April (A): start firm overlap, 10 May (B): start Earth LASOF overlap of planet Venus, 10 July (C): start exit overlap of planet Venus

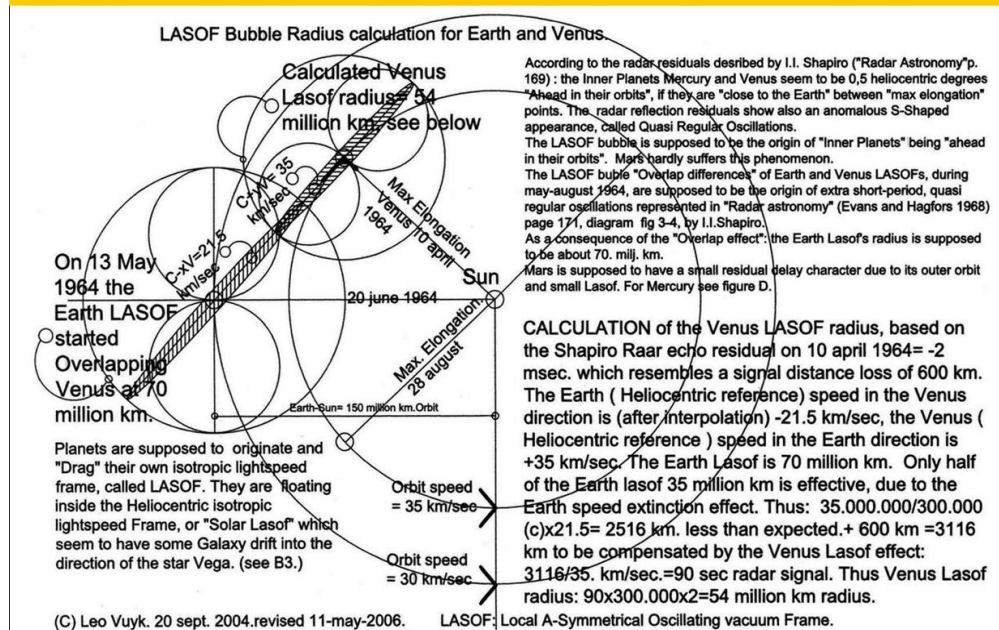


Figure 2, radar reflection experiment with Venus with LASOF major axis length estimation.

About the Time delay residuals in figure 3, I.I.Shapiro wrote:

“Preceding inferior conjunction, the residuals are negative, whereas following they become positive.

This behaviour is readily explained by Venus being ahead of its orbit relative to earth, since in that case, it would be closer to earth than predicted before conjunction and further away (from earth) afterwards in agreement with figure 3-4.

Quantitatively too, the amount seems to be in accord with the earlier determinations.

Remarkably although the residuals shown are **enormous** relative to errors associated with some of the more accurate measurements.”

My conclusion: Shapiro did NOT account for the possibility that he measured the mutual influences of the both LASOF lightspeed ellipsoids of the Earth and Venus, as we do in figure 4.

In figure 4, calculations are made which tell us that the major axes of the LASOF ellipsoids for the Earth and Venus are estimated to be respectively 70 and 54 million kilometres.

Future measurements however will be able to give these numbers a more accurate foundation, because only then we are perhaps able to calculate more intensely focussed on this subject.

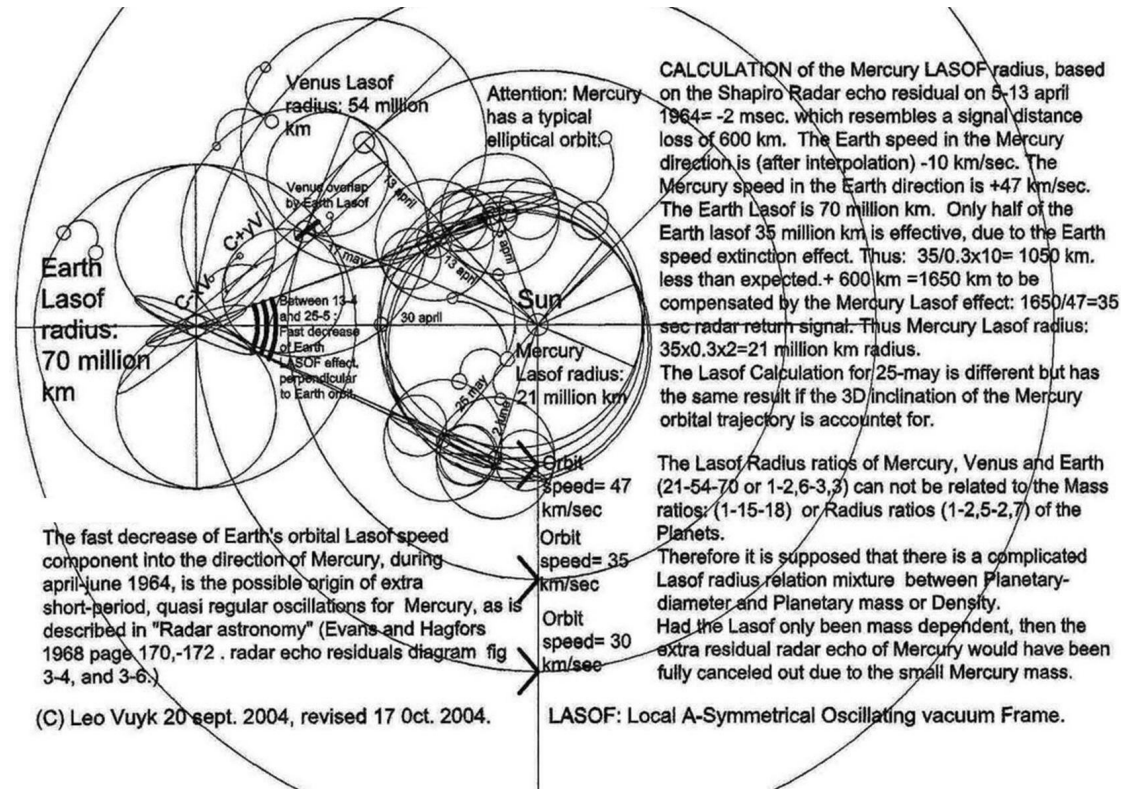


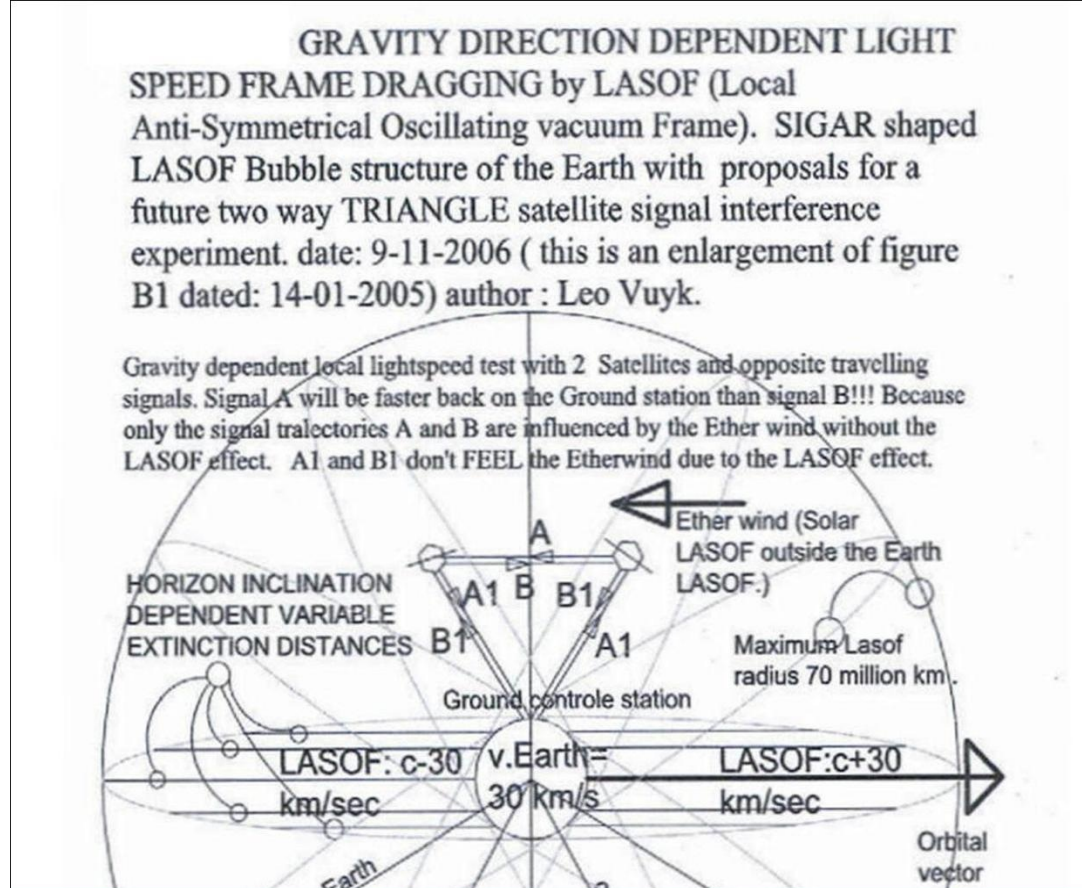
Figure 3, Radar reflection with Mercury and LASOF major axis estimation.

Experiment 3 and 4 (below).

Opposite running (laser) signal interference experiment between earth and two satellites, to measure the LASOF influence and ether wind on the lightspeed. Only the signals A and B are assumed to be influenced by the ether wind, induced by the

earth rotation of 30 km/sec around the sun.

Signals A1 and B1 are not influenced as we know from the accuracy of the GPS system, if the GPS signals are directed to the Earth surface and influenced by gravity dragging. This experiment could even be able to measure tiny lightspeed influences of the Galaxy.



Two experiments to show mass related light-speed differences (Quantum FFF theory)

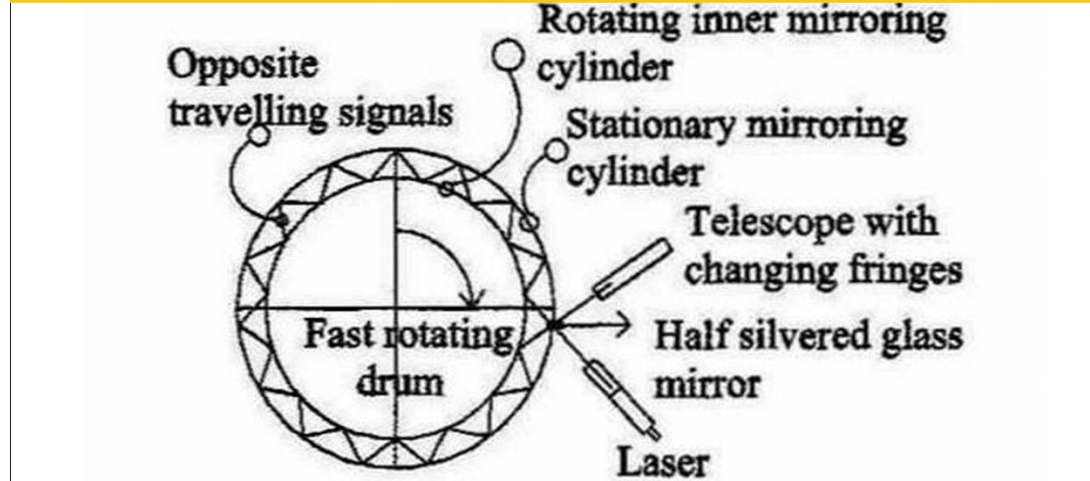


Figure 4, experiment 3 and 4.

Experiment 4 (figure 4 page 5),

Opposite running (laser) signal interference variation, between a fast rotating mirror cylinder and one coaxial mirror cylinder that is in fixed position to the laboratory.

If the Local Oscillating Vacuum Frame is influenced by the cylinder mass, even over short distances, (e.g. 1 cm) then we may expect a so called LASOF interference effect over short distances (Local Anti Symmetrical Oscillating Vacuum Frame) related to fast rotating cylinders.

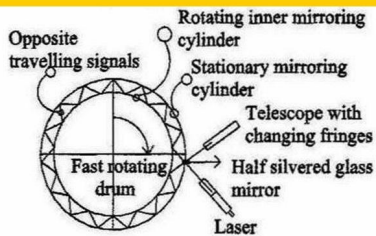
The interference pattern variation produced inside the telescope, (figure 7) should have a direct relation to the speed of the rotating cylinder.

In 1964, Babcock and Bergman published a comparable experiment with promising results, in J.O.S.A Vol.54, nr.2.

Addendum.

Background information of the LASOF postulate

Mass related lightspeed differences by LASOF (Local A-Symmetric Oscillating Vacuum Frame) effects are origin of Gravity direction dependant lightspeed Frame dragging. (Quantum FFF theory)



The Babcock and Bergman test done in 1964, resulted in a positive lightspeed drag factor of only 0,7%, which could be translated in a drag extinction effect over less than 1 cm distance after signal passage through the fast moving glass window, See: Journal of the Optical Society of America Vol. 54, nr 2 page 147-151 Febr. 1964. Determination of the Constancy of the speed of Light by Babcock and Bergman.

If the Quantum Mechanical Vacuum structure is influenced over maximal 1 cm. by matter, as the Experiment done by Babcock and Bergman seems to indicate, then a fast moving mirror cylinder inside a stationary cylinder should influence the interference pattern produced inside the telescope much more, than the Babcock and Bergman's experiment did. We should get better results, if the distance between the inner and outer mirror cylinder is minimized and the number of lightpath reflections is maximized.

Postulate:

The Test results of Babcock and Bergman (J.O.S.A 1964) and the Radar echo delay residuals for Venus and Mercury, found by Irwin I. Shapiro in 1968 (see figures C and D) are reason to postulate in contrast with the second postulate of Einstein that,

-----The speed of light in vacuum is dependent on the emitting body motion, only for an extinction distance, which is limited by the state of motion, mass and density (surface gravity) of the body----- (see: fig.B1, C and D)

Explanation:

1: The Planetary distance of extinction is variable by the horizon inclination angle of the signal and limited by a complex, direction dependent multiple elliptical Local Vacuum Bubble, with a fixed maximum radius, located around- and dragged by the Planet. (see fig. B1, with the second test possibility by means of two satellites) The Radar Echo delay residuals for Venus and Mercury show by simple interpolation, that the maximum extinction for the Earth, Venus and Mercury should be respectively 70-, 54-, and 21 million kilometres. (see Poster figures: C and D)

2: The Planetary lightspeed extinction is a smooth direction dependent adaptation of the lightspeed into the isotropic light speed Vacuum Bubble or "Local Ether" around the Sun, which is expected to have a light speed isotropy system inside the Galaxy, different from planets.

3: There is no light speed adaptation, of signals travelling from Solar Light speed frame into Planetary Vacuum Bubble Frames.

The "Shapiro" Radar echo residuals for eclipsing Mercury and Venus, should have been different. ("Planetary Radar Astronomy": IEEE Spectrum, March 1968, p 70-79.)

4: The light speed experiment of Babcock and Bergman (J.O.S.A. 54,2, febr.1964) suggests, that the same system is active for small fast moving non-astronomical objects inside the Planetary Vacuum Bubble.

5: The signal speed accuracy of GPS satellites measured by Groundstations show, that the Solar Light Speed Frame has no influence on the speed of signals emitted by GPS satellites if the signals are travelling even with a minimal elevation degree with the horizon of the Groundstation.

6: The small effects measured in the well-known Michelson and Morley ether drift experiments on mountain summits, (made by Dayton Miller, in 1926) are supposed to be originated by the decreased -elliptical induced- planetary extinction distances, present at higher altitudes in horizontal directions. See: "Horizon inclination dependent variable extinction distances" on Poster figure B1.

Figure 5,

TABLE I. Results of the measurement of four sets of interference fringe photographs. The relativistic prediction for the fringe shift between clockwise and counterclockwise rotating conditions is about 0.0036 fringe, and the fringe shift between initial and final stationary conditions should ideally be zero. All fringe shifts are in fractions of a fringe. The estimated standard deviation of each shift was 0.0035 fringe.

Photograph set	Observer	Fringe shift between:		Effective speed (rps)
		Initial and final stationary conditions	Clockwise and counterclockwise rotating conditions	
A	1	-0.0141	+0.0041	88
A	2	-0.0141	+0.0020	88
A	3	-0.0162	+0.0035	88
B	1	+0.0091	+0.0052	88
C	1	-0.0032	+0.0054	90
D	1	-0.0020	+0.0036	93

shift of 0.0120 ± 0.0065 fringe was found. As is seen below, one probably cannot regard all of this shift as a systematic effect, but its smallness shows that the ideal self-compensating features of the system were nearly realized. Shifts found when the arm was moved by $1^\circ 0'$ and $0^\circ 6'$ were 0.0029 and 0.0016 fringe, respectively, both less than the estimated standard deviation of the shift.

The values of the fringe shifts Δf are given in Table I for Sets A, B, C, and D. A positive value in the column for rotating conditions indicates a shift in the direction predicted by both the theory of relativity and that of simple addition of velocities. It is seen that the shifts found between the two rotating conditions scatter very little, and have a mean of about +0.004 fringe. On the other hand, the shifts between the first and last (stationary arm) photographs of a set are generally larger, and scatter much more. The reasons for this are not fully understood. In view of this uncertainty it is only claimed here that the shift between rotating conditions was less than 0.02 fringe, a value to be compared with the shift of 2.9 fringes predicted on the assumption of addition of velocities. It is also concluded that the results are, to within their own precision, in agreement with the predictions of the theory of relativity.

ACKNOWLEDGMENTS

Dr. W. R. Haseltine made many useful suggestions. We are grateful to Dr. J. M. Bennett for the use of the scanning comparator. We would like to thank Dr. T. E. Phipps and Mr. F. A. Kinder for their encouragement. Most of the data were reduced by Mrs. J. S. Brune, and Mr. P. C. Bauer constructed much of the apparatus.

Copy of the lightspeed Babcock and Bergman anomaly. After passing through a fast rotating glass plate the photons are fringe shifted by maximum 0.02 fringe compared with a shift of 2.9 fringes predicted on the assumption of addition of velocities, = 0.7 percent of the photon trajectory of 1.40m. Conclusion: the LASOF effect is supposed to be active here over a distance of maximum 1 cm.

Figure 6,

residuals. Preceding inferior conjunction the residuals are negative whereas following they become positive. This behavior is readily explained by Venus being ahead in its orbit relative to earth, since, in that case, it would be closer to earth than predicted before conjunction and further away afterwards in agreement with Fig. 3-4. Quantitatively, too, the amount seems to be in accord with the earlier determinations. Remarkably, although the residuals shown are enormous relative to the errors associated with some of the more accurate measurements, the discrepancy is caused almost entirely by an error of only 0.5 of heliocentric arc.

The fact that the residuals vanish near conjunction supports the trial values used for the AU and for the radius of Venus. Another interesting feature of the residuals shown in Fig. 3-4 is the appearance of short-period quasi-regular oscil-

Earth-Venus Lightspeed (radar) anomalies (residuals) by I.I.Shapiro in Radar Astronomy 1964. Arrows A are pointing at the overlapping process of mutual LASOF areas of Venus and Earth. According to Quantum-FFF theory.

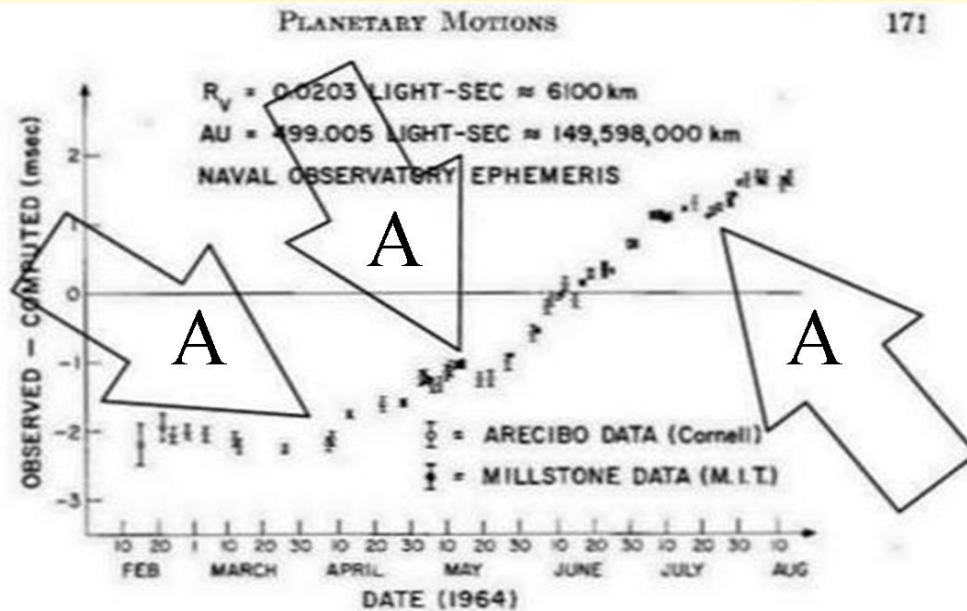


Fig. 3-4. Earth-Venus time-delay residuals resulting from comparison of radar observations with delays computed from U.S. Naval Observatory ephemeris, based on Fourier Series.

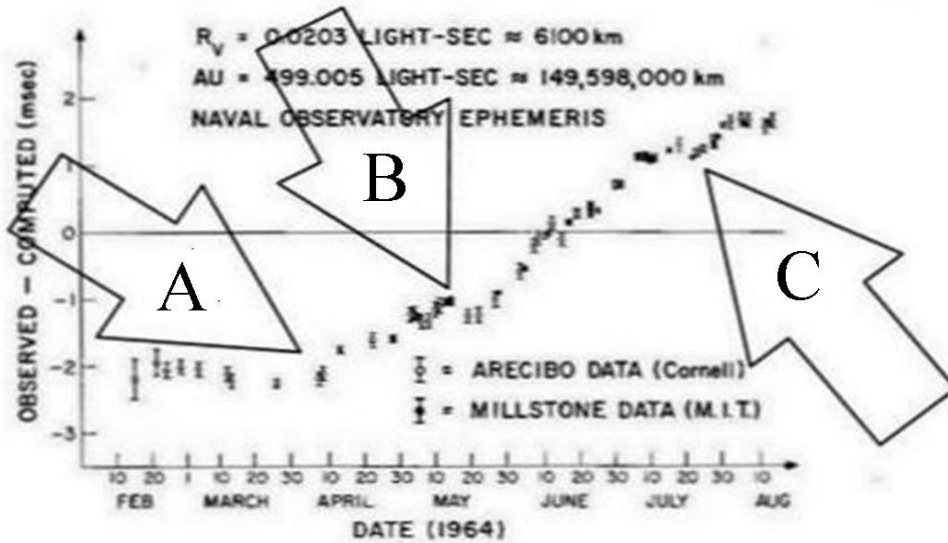


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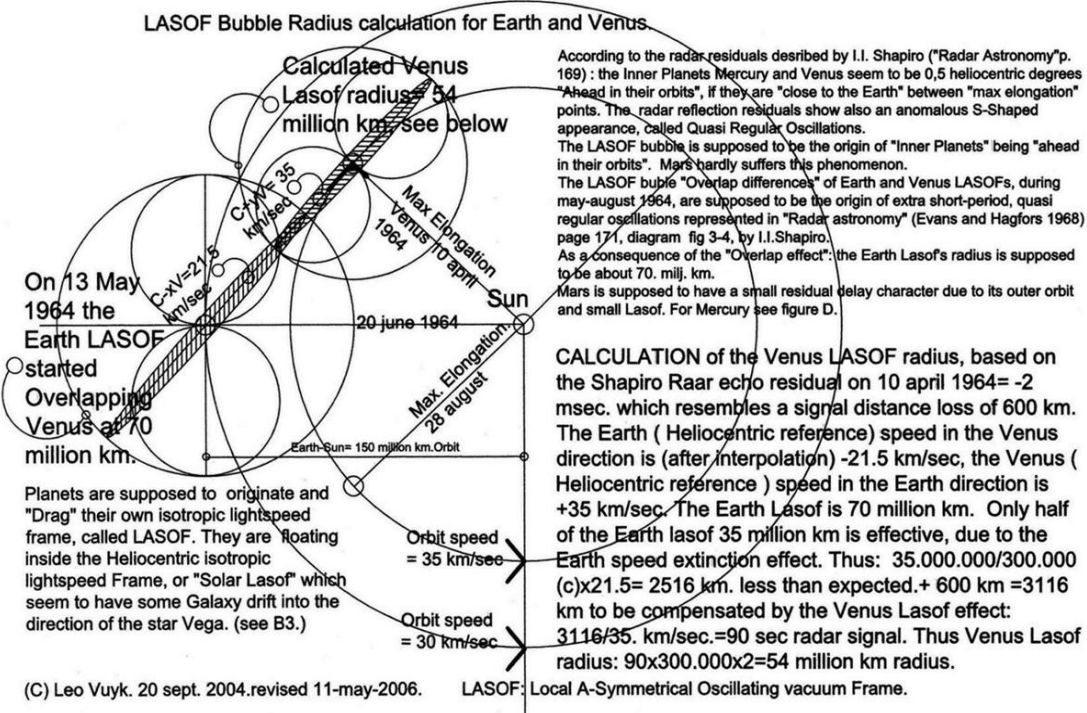
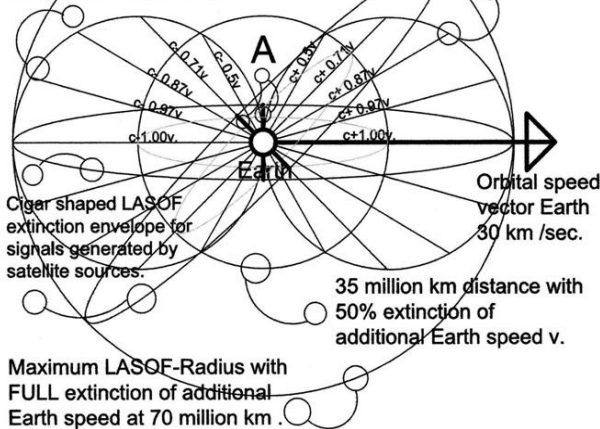


Figure 8,

Simplified view of Earth's orbital motion related additional and only inital light speeds, as experienced from the Heliocentric reference frame.

Interpolation disks (based on cosine function) of inital additional /subtractional light speeds (v) only for signals GENERATED on Earth.



Maximum LASOF-Radius with FULL extinction of additional Earth speed at 70 million km .

Figure B1a: GRAVITY DEPENDENT LIGHT SPEED FRAME DRAGGING by globular and cigar shaped LASOF (Local Anti-Symmetrical Oscillating vacuum Frame) lightspeed extinction envelopes. The globular LASOF is related to Earth bound sources.

The cigar shaped LASOF is related to satellite sources.

The major axis of the Cigar shaped LASOF envelopes, is supposed to coincide with the Satellite-Earth axis. Future satellite-GPS distance reading variations should give information about the minor axis (A) of the cigar shaped LASOF envelope.

Author: Leo Vuyk, 20 sept.2004. revised: 29-10-07.

Lightspeed variability between massive objects like Venus and the Earth by the LASOF Vacuum.

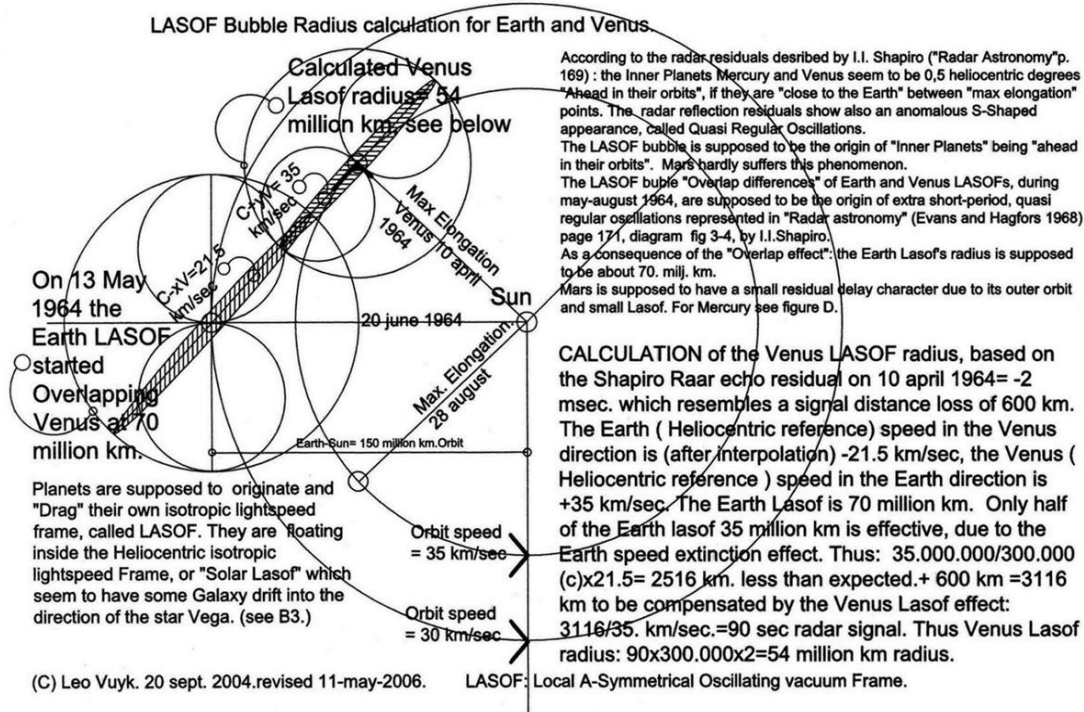
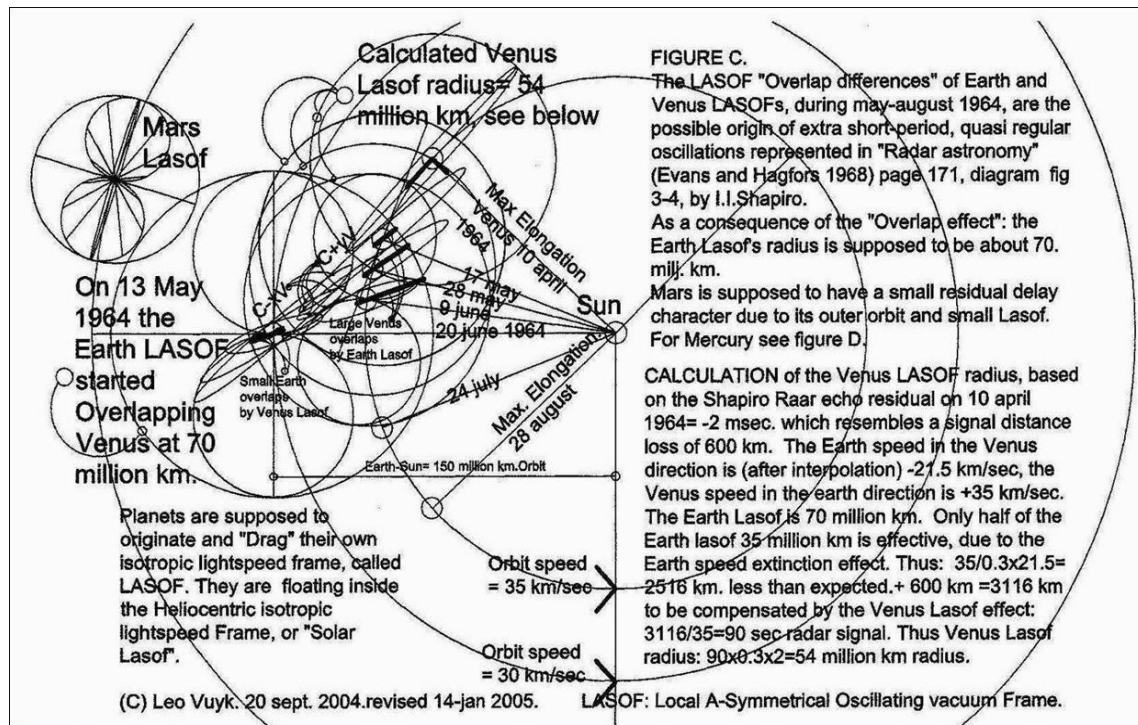


Figure 10,



LASOF overlap differences between Earth-Venus (fig C) and non-overlap with Mercury (fig D) based on Gravity direction dependent Lightspeed Frame Dragging by the LASOF asymmetric Vacuum.

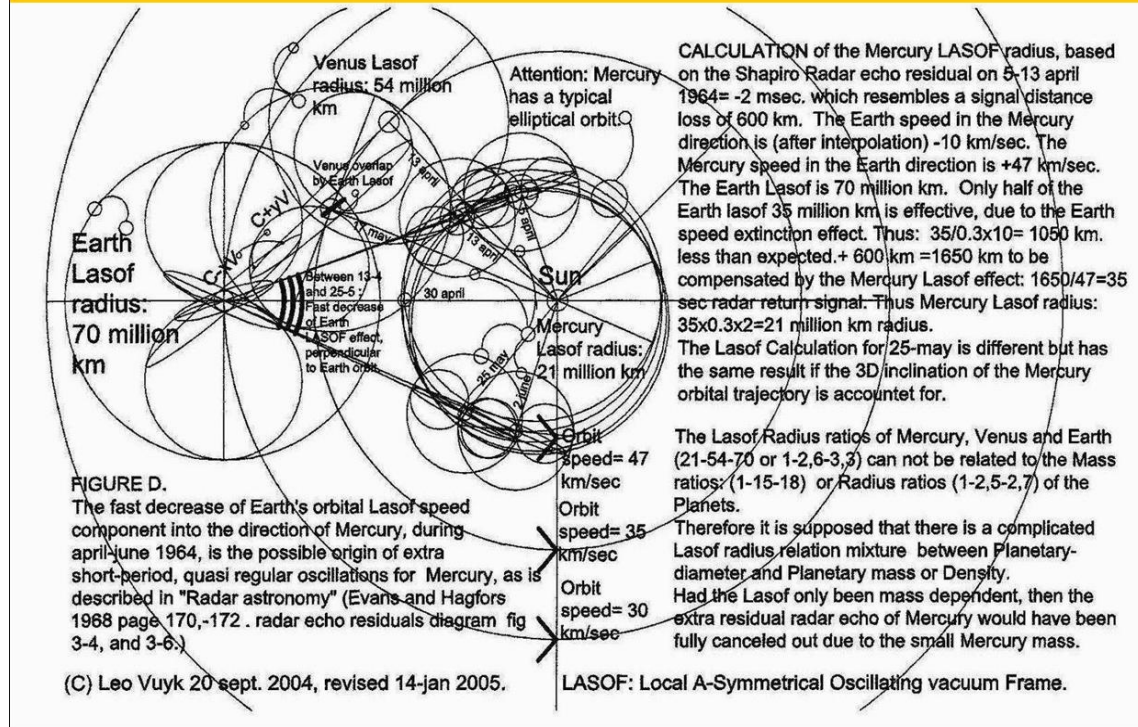


Figure 11,

- [1]: ABSOLUTE MOTION AND GRAVITATIONAL EFFECTS
Reginald T. Cahill 2003.
School of Chemistry, Physics and Earth Sciences
Flinders University. <http://arxiv.org/pdf/physics/0306196.pdf>
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- [3]: ETHERAL WIND IN EXPERIENCE OF MILLIMETRIC
RADIOWAVES PROPAGATION Yu.M. Galaev.
The Institute of Radiophysics and Electronics of NSA in Ukraine,
12 Ac. Proskury St., Kharkov, 61085 Ukraine
Received August 26, 2001 in : Spacetime & Substance
International Physical Journal.
<http://www.spacetime.narod.ru/0010-pdf>
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Authors: Leo Vuyk : viXra:1104.0083 submitted on 28 Apr 2011,
Category: High Energy Particle Physics
<http://rxiv.org/pdf/1103.0068v1.pdf>
- [5] viXra:1209.0030 Majorana and Sterile Neutrino Solutions in the Quantum-FFF Model.
Author: Leo Vuyk
Category: Quantum Physics
- [6] viXra:1208.0031 Clumpy Dark Matter Around Dwarf Galaxies a Support for an Alternative Black Hole Theory According to the Quantum Function Follows Form Model.
Authors: Leo Vuyk
Category: Astrophysics
- [7] viXra:1202.0091 Earth Magnetic Monopole Field Interaction with Cyclotron-Synchrotron Electrons and Muon Conversion Used for Levitation Systems
Authors: Leo Vuyk
Category: Quantum Gravity and String Theory
- [8] viXra:1201.0092 Earth Magnetic Monopole Array Field Interaction with Cyclotron Electrons used for Levitation Systems.
Authors: Leo Vuyk
Category: Quantum Gravity and String Theory
- [9] viXra:1112.0065 LHC Signals Between 121-130 Gev. Interpreted with Quantum-FFF Theory
Authors: Leo Vuyk
Category: High Energy Particle Physics
- [10] viXra:1111.0096 Reconciliation of QM and GR and the Need for a Pulsating Entangled CPT Symmetric Raspberry Shaped Multiverse.
Authors: Leo Vuyk
Category: Astrophysics
- 12
- [11] viXra:1111.0061 Black Hole Horizon Curvature Dependent Balance Between Plasma Creation and e-e+ Annihilation in Quantum FFF Theory.
Authors: Leo Vuyk
Category: Astrophysics

[12] viXra:1108.0036 Artificial Ball Lightning Production and Exploitation Device for Zero Point Electric Energy Usage.

Authors: Leo Vuyk

Category: Quantum Physics

[13] viXra:1108.0006 Mass in Motion in Quantum FFF Theory

Authors: Leo Vuyk

Category: Quantum Physics

[14] viXra:1104.0044 Ball Lightning, Micro Comets, Sprite-Fireballs and XRay/gamma Flashes According to Quantum FFF Theory

Authors: Leo Vuyk

Category: Astrophysics

[15] viXra:1104.0002 Stellar Anchor Black Holes as the Remnants of Former Herbig Haro Objects

Authors: Leo Vuyk

Category: Astrophysics

[16] viXra:1103.0097 ZPE Zero Point Energy Examples Around Black Holes.

Authors: Leo Vuyk

Category: Relativity and Cosmology

[17] viXra:1103.0068 Funktion Follows Form, at the Quantum Scale and Beyond.

Authors: Leo Vuyk

Category: Quantum Gravity and String Theory

[18] viXra:1103.0024 Quantum Gravity and Electro Magnetic Forces in FFF Theory

Authors: Leo Vuyk

Category: Quantum Gravity and String Theory

[19] viXra:1103.0015 Wavefunction Collapse and Human Choice-Making Inside an Entangled Mirror Symmetrical Multiverse.

Authors: Leo Vuyk

Category: High Energy Particle Physics

[20] viXra:1103.0011 An Alternative Black Hole, Provided with Entropy Decrease and Plasma Creation

Authors: Leo Vuyk

Category: High Energy Particle Physics

[21] viXra:1103.0002 3- Dimensional String Based Alternative Particles Model

Authors: Leo Vuyk

Category: High Energy Particle Physics

[22] viXra:1102.0056 Experiments to Determine the Mass Related Lightspeed Extinction Volume Around the Earth and Around Spinning Objects in the Lab.

Authors: Leo Vuyk

Category: Relativity and Cosmology

[23] viXra:1102.0054 Atomic Nuclear Geometry Based on Magic Number Logic.

Authors: Leo Vuyk

Category: Nuclear and Atomic Physics

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