In subsection 3 of section 3.2 of AS3-II.9 - entitled

Aetherometric treatment of the apparent propagation velocity for the force of gravity, and Bradley's aberration

- we proposed a supplemental treatment of Bradley's aberration; but the enunciated hypothesis in that treatment was not yet an aetherometric one, only *semi*-aetherometric. Indeed, as David Pratt recently pointed out to us, the hypothesis still accepted the conventional notion that it is light at speed c which propagates from the Sun. In fact, the concluding paragraph of that presentation obscurely suggested that there could be a physical basis for such transmission. However, in distinction from the relay of photons - via absorption and re-emission - that occurs between neighbouring atoms or electrons in atmospheric volumes, or even in partial vacua - as in lasers or plasma arcs - no such relay is possible in the deep vacuum of cosmic spaces. Emitters are simply not close enough to relay photons directly between them across space. That is why there is no parallelism between light-interferometric experiments and the propagation of 'light signals" across abstract space in, for example, the so-called aberration of starlight. In effect, the light signals do not propagate, they are only *a virtuality* contained in what propagates. Aetherometrically, optothermal light is only generated locally, and the transmission speed of "the light-causing excitation" is not bound by c, since it is electric or, in particular, ambipolar - as that same concluding paragraph also emphasized.

The hypothesis in question was formulated a couple of years before we finalized our theory of the photon - at a time when, under the influence of 'universal' arguments, we still thought that there was substance to the notion that light in the solar system shared a common inertial frame axed in the system barycenter because most photon emitters and receivers in the system shared the same inertial motion. Thus, the visible image which they generated at a target (say, the Earth), could propagate from the emitter to a receiver at c. We were therefore led to admit that there were two images, one dark and ambipolar, and the other visible and electromagnetic.

Such an admission - it turns out - is not compatible with a *complete* aetherometric treatment of the aberration of light. *There is only one image* - and it is visible and electromagnetic; but its propagation is ambipolar, and its local photon production is mostly the result of the intermediacy of leptons, whether free or valence, in that locality. Accordingly, the subsection in question must be thoroughly replaced by a new hypothesis. What follows below, entirely replaces part 3 of subsection 3.2:

3) Van Flandern states that there is no cause to doubt that photons "arriving now from the Sun left 8.3 minutes ago". Yet, no one has travelled the distance with tagged photons to verify this supposed fact. It is arrived at simply by dividing the distance (or an uncertain distance) between Earth and Sun by c. But that only makes sense *if it is light that travels* at speed c *from the*

Sun. However, Aetherometry has demonstrated that visible or optothermal light travels nowhere other than "on the spot", as it were, and what transmits the excitation of light across space is not light but ambipolar radiation [90]. Hence, there is every reason to suppose (1) that the photons we see do not ever arrive from the Sun but are born in our volume-Space neighbourhood [90], ie in the terrestrial atmosphere (the receiver), and (2) that what arrives from the Sun, not being light or photons but their ultimate cause, is not bound by speed c in its propagation. In fact, as we have shown elsewhere, it has a longitudinal wavespeed that varies from star to star, and in the case of the Sun it is exactly $W_{vS} = 3.529*10^9$ m sec^{-1} [90]:

$$W_{vS} = c\,\sqrt{\alpha^{-1}}$$

Does this contradict the notion that the visible Sun at any moment is 8.3 minutes old? Does it deny that Bradley's constant of aberration is real?

'Yes' to the first question, and a qualified 'no' to the second - there is a constant of aberration for the sunlight with respect to the observer-Earth and every other observer, but its value is not universal to all stars, and may well not have been correctly computed.

Let us examine the aberration, as described in **Fig. 3A**: **S** is supposed to denote the position of the star if there were no aberration - what would be its 'true instantaneous position'. Instead, the star traces on the celestial orb the ellipse shown, with the greatest transversal displacement (marked as *k*) occuring at **A** and **A'**, when the Earth's motion, at apoapsis and periapsis, is at right angles to the direction of the star. One may imagine a different figure, on a plane perpendicular to that of the ellipse in **Fig. 3A** and oriented so as to pass through **A** and **A'**, with the star momentarily fixed at any point (which we denote as **C** in **Fig, 3B**, but we could take it to be **S**, or the true position of the star), and connected radially to the moving Earth by a line formed by a light beam. The result is Bradley's diagram for light aberration shown in **Fig. 3B**, which can be applied to the Sun/Earth couple as well. It is clear from Bradley's own description of the aberration that if it were *light corpuscles* that propagated *in vacuo*, the distance light travelled from the Sun to the Earth (see line **C_B** in **Fig. 3B**) would always be longer than the mean radius R_{ETL} (see line **C_A**, the line of sight), and longer than half of either axis, major or minor (the semi-axes are generally denoted, respectively, by a and b), as the instantaneous radius of motion varies across the year. However, if it is not light that propagates, and if the light-producing excitation travels at a wavespeed which is variable and different from c - and incidentally faster than c - then the visible Sun cannot be 8.3 minutes old, and must be more recent. Assuming an ambipolar propagation at the above noted electric wavespeed, the same applies: the distance travelled will be longer than the mean radius R_{ETL}, though shorter than if it were light which propagated. Since the angle A-C-B is very, very small, we can take **C_B** to be nearly equal to R_{ETL}, and conclude that it takes ~42.38 seconds for the solar-emitted ambipolar excitation to reach the Earth and generate the visible image of the Sun in our atmosphere.What are the consequences of this?

The constant of aberration was discovered by J. Bradley in 1728, who computed it to be 20 to 20.5 arcseconds. His analysis began with the study of the plane transverse propagation of light between a fixed star (at **C**) and a moving receiver being displaced along the line **D_B** in **Fig. 3B** (the propagation is transverse to the motion of the receiver). This is the simple case when the star is at right angles to the direction of the Earth's motion. But he found that the displacements - which were always periodic - varied between stars, being shorter for those stars that were oriented obliquely to the translation of the Earth (see, for example, line **C_B'** in **Fig. 3B**), with the aberration depending on the simple law given by

$k \sin$ C-A-B

where k is the aberration constant, set nowadays at 20.49 arc seconds. The aberration varies for the same star in the course of the year, being greatest at the apsids, that is, when the *radial* displacements (in opposite directions) are maximal. The constant of aberration defines the maximal annual displacement of a star (the least displacement depends upon a star's "distance" to the ecliptic), whereas its total annual displacement will equal $2k$ (see **Fig. 3A**).

Bradley's planar analysis presents the star as immobile (imaginary true position). But all stars are in complex states of motion, some interrelated, others independent. Thus the maximal transverse displacement of a star may be different from the aberration constant.

Let us return to the case of the Sun and the Earth's annual translation: Kepler's laws do not fully describe the eccentricity of the orbit because the motions of Earth and Sun are helico-cycloidal, with the Sun gravitationally pulling on the Earth - and the latter periodically overshooting and undershooting its circular path - and also dragging the Earth and the planets of the solar system along a drift path. Let's us abstract from the helicoidal motions (which, in our full model, account for the barycentric oscillation of the Sun, a subject that lays outside the present account), and simply project the path of the Earth's planetary orbit on the plane of the ecliptic, as if it described a distorted Copernican circle. It will look like the diagram of **Fig. 3C**, where, though the displacements of the Sun are not in scale, and much magnified for purposes of a better visual grasp, there is a net drift of the Sun (nearly) in the direction of the winter solstice, such that the time it takes from aphelion to perihelion is greater by ~41 hours than the time it takes from perihelion to aphelion. (Note that we employ the aetherometric value for $R_{ETL} = \sqrt{a*b}$, which very slightly differs from the conventional value.) As shown in revised **Table 1**, the planar drift velocity of the Sun is ~44.5 m/sec (160 km/hour), as given by

$$v_{dS} = [2(v_{ETL}\ \Delta T_1)/\pi]/P = 44.481\ \text{m sec}^{-1}$$

It is a minor displacement referred to the inertial frame of the solar system, which is axed on its barycenter. If we apply the same principle to the observation of any star, then the projection of the apparent motion of the star in the celestial orb (as a function of annual time) will rather look like what is shown in **Fig. 3D** (abstracting from parallax and parallactic motion): a sequence of stretched ellipses that reveal the movement of the star along any transverse path given by S_0-->S_8. In effect, that is what the transverse velocity of a star is, which one may determine by subtracting *k* from *k'*. Thus, the light aberration *cannot be independent* from the star's (or "light emitter's") velocity (speed and direction), even if the latter may be diminutive. But, furthermore, light aberration *cannot be invariant* since the speed of propagation will vary with the modal ambipolar emission of the star. In the case of the Sun/Earth couple where we know the value of W_{vS}, the aetherometric treatment of the aberration of starlight modifies the traditional equations as shown in the second part of the revised **Table 1**, where both treatements, conventional and aetherometric, are contrasted.

If we take into account the two interactions - gravitational and ambipolar - between Sun and Earth, we will mark t=0 when, at an arbitrarily chosen time, the Sun both exerts a gravitational pull on the Earth and emits an ambipolar radiation 'marker'. If the aetherometric hypothesis [35] of the speed of propagation of apparent gravity being invariant and equal to

$$v_G = (c/W_{Ge})\ K_{krSS}\ \text{sec} = 426.95\ c = 1.2799 * 10^{11}\ \text{m sec}^{-1} \qquad (515)$$

holds (where K_{krSS} is the acceleration constant intrinsic to every graviton, and W_{Ge} the graviton wavespeed of leptons), then the pull reaches the Earth 1.169 seconds after the Sun exerted it. This is shown in **Fig. 3E** (which can be compared directly to **Fig. 3B**), where the gravitational pull that leaves the Sun at $\mathbf{C_0}$, when the Earth is at $\mathbf{E_0}$ = **B** reaches the Earth at $\mathbf{E_1}$. At t=0, the Sun also emits ambipolar radiation, which will take 42.38 sec to reach the Earth at $\mathbf{E_2}$ = **A** and produce the visible image of the Sun at $\mathbf{C_0}$ - thus the modal radiation will arrive another

42.382 sec - 1.169 sec = 41.213 sec

after the Earth "feels"' the pull from the Sun. However, at this moment (when the Earth is at $\mathbf{E_2}$), the Sun is no longer at $\mathbf{C_0}$, as it will have moved 1.88 km to $\mathbf{C_1}$. Accordingly, the distance travelled by the "light-conveying" excitation is always slightly longer than

R_{ETL} = [$\mathbf{C_0}$_$\mathbf{E_2}$]

A shorter distance still, but also longer than R_{ETL} is travelled by the propagating gravitational pull of the Sun - and it is very slightly longer than the apparent gravitational radius R_G shown in **Fig. 3E**. Of course, the Earth equally exerts a gravitational pull on the Sun, which will arrive there also 1.169 seconds later.

Light produced on the surface of the Sun is re-produced on the Earth's atmosphere not 8.32 minutes later but only 42.4 seconds later, and when this happens, the Sun is no longer at **C** (**Fig. 3B**) or $\mathbf{C_0}$ (**Fig. 3E**), but at $\mathbf{C_1}$ (**Fig. 3E**). Thus, it is not correct to suppose - as is traditionally upheld - that the *transverse* Bradley aberration is independent from the star's (or "light emitter's") velocity. The star's velocity may be negligible - as in the case of the Sun - but most often it is not. The velocity v of a star is conventionally approximated by the planar relation between two vector components (see **Fig. 3F**): the transverse velocity v_t of "proper motion" which causes an apparent angular displacement "on the celestial sphere" of the image of the star over time; and the radial velocity v_r which causes the displacement of the star *along the line of sight* to an observer. The former is construed to combine with parallactic motion to yield an oscillatory motion across the years. The proper motion of most stars is less than 1 arcsecond per year. The largest known is that of Barnard's star, at 10.2 arcseconds per year. The radial velocity is measured by the light Doppler shift (thus the reference is c), by taking into account the translation of the Earth around the Sun. To determine the velocity of a star, one needs to know the radial velocity, the proper motion and the distance relative to the Sun. Conventionally, the measured velocities are distributed between +400 km/sec (receding) and -400 km/sec (approaching), with most stars falling within the +/-50 km/sec range.

These measurements, however, are calculations that suppose that it is photons which propagate at c from any and every star. Aetherometry, instead, claims that the actual speed of propagation of the "light-stimuli" depends upon the modal ambipolar emission of the given star - or upon the modal temperature of the surface photon spectrum ultimately sourced in the ambipolar emission. This means that the propagation speed of the "starlight effect" is variable and not a constant. It would abide by the nearly linear variation observed in the Hertzsprung-Russell (HR) diagram - and thus by the "effective temperature" vs. surface area distribution that is characteristic of the "main sequence" of stars - if one employed the correct quantum determination of temperature, which is an aetherometric discovery:

$$kT = h\upsilon$$

Thus, hot stars - like the Sun - which lie in the middle of the main sequence, do not present a blackbody of 6,300°K for modal 460 nm photon wavelengths, but instead a blackbody at the much greater temperature of 31,278°K. Such a value may well be the commonest thermal mode in a revised HR diagram, as it defines the true spectral range whithin which even dwarfs, giants and supergiants can be found.

Bradley's discovery of the apparent aberration of starlight was hailed as experimental proof that the Earth has a yearly motion around the Sun. It directly detected this motion, but also claimed to measure it as a first-order transverse effect of v/c: since, in order to accurately measure the aberration, the telescope had to be inclined by 1/10,000 in the direction of the Earth's motion around the Sun, the speed of the latter was inferred to be - by reference to **Fig. 3B**:

$$v_{ETL} = c\ ([\mathbf{B\_A}]/[\mathbf{C\_A}]) = c\ ([\mathbf{B\_A}]/R_{ETL}) \approx c/10{,}000 \qquad (595a)$$

(with the values of **Table 1**: c/10,066). Thus, conventionally, the aberration constant may be determined as

$$k \approx (v_{ETL}/c)\ (1\ \text{radian}) = (1/10{,}000)\ (2.06265{*}10^5\ \text{arcseconds/radian}) =$$
$$= 20.6265\ \text{arcseconds} \qquad (596a)$$

Using a more recent conventional value of v_{ETL} = 29,780 m sec^{-1}, we have instead

$$k \approx (v_{ETL}/c)\ (1\ \text{radian}) = (1/10{,}066.9)\ (2.06265{*}10^5\ \text{arcseconds/radian}) =$$
$$= 20.489\ \text{arcseconds} \qquad (596b)$$

This places R_{ETL} at:

$$R_{ETL} = v_{ETL}\ (8.32\ \text{min} * 60\ \text{sec/min})\ (10{,}066.9) = 1.49656{*}10^{11}\ \text{m} \qquad (597a)$$

Note that the currently accepted determination of R_{ETL} = (a+b)/2 places it $1.49587{*}10^{11}$ m, the value being, with this number of digits, indistinguishable from $R_{ETL} = \sqrt{(a+b)}$.

If the reasoning behind the preceding determination of the aberration constant were correct, there would have been little reason to suppose that the 1887 MM experiment would have detected the motion of the Earth around the Sun as a second-order effect of v/c, when the Bradley aberration already detected it as a first-order effect. However, as we have proposed, the relationship between v_{ETL} and the speed at which the electric "light-stimulus" is propagated from the Sun is physically rather different. We may assume that v_{ETL} has the conventional value - even if written aetherometrically as

$$v_{ETL} = 2\pi \sqrt{(a\ b)} = 29{,}782.6\ \text{m sec}^{-1} = c/10{,}066 \qquad (595b)$$

and thus express it as a function of the diagram in **Fig. 3E**:

$$v_{ETL} = 2\pi \sqrt{(a\ b)} = W_{vS}\ ([\mathbf{E}_2\_\mathbf{E}_0]/[\mathbf{C}_0\_\mathbf{E}_2]) = W_{vS}\ ([\mathbf{E}_2\_\mathbf{E}_0]/R_{ETL}) = W_{vS}/(10{,}066\ \alpha^{-0.5}) =$$
$$= W_{vS}/118{,}499.6 \qquad (595c)$$

It relates, as a physical function, to a first order differential, but of v_{ETL}/W_{vS}. As a result, R_{ETL} remains practically the same:

$$R_{ETL} = v_{ETL} \, (42.382 \text{ sec}) \, (118{,}499.6) = 1.49575 * 10^{11} \text{ m} \qquad (597b)$$

but the size of the light aberration does not remain the same, as it must now be much smaller than Bradley's accepted claim:

$$k'' = (v_{ETL}/W_{vS}) \, (1 \text{ radian}) = 1.7406 \text{ arcseconds} = k/\alpha^{-0.5} \qquad (596c)$$

What does this mean? Is Aetherometry incorrect? Or is Bradley's determination of the constant of aberration incorrect?

Before we are in a position to answer these flaming questions, let us proceed a bit further. The aberration is said to be maximal at aphelion and perihelion - at positions $\mathbf{E_0}'$ and $\mathbf{E_2}'$ in **Fig. 3B** - when the speeds of the Earth and the Sun reach full additivity (**Fig. 3E**)

$$v_{ETL} + v_{dS} = W_{vS} \, [([\mathbf{E_2\_E_0}] + [\mathbf{C_1\_C_0}])/[\mathbf{C_1\_E_2}]] = W_{vS}/(10{,}036 \, \alpha^{-0.5}) = \\ = W_{vS}/118{,}145.3 \qquad (595d)$$

which can be very nearly approximated by

$$v_{ETL} + v_{dS} \approx W_{vS} \, [([\mathbf{E_2\_E_0}] + [\mathbf{C_1\_C_0}])/[\mathbf{C_0\_E_2}]] = W_{vS} \, [([\mathbf{E_2\_E_0}] + [\mathbf{C_1\_C_0}])/R_{ETL}] \qquad (595e)$$

so that

$$(v_{ETL} + v_{dS})/W_{vS} = ([\mathbf{E_2\_E_0}] + [\mathbf{C_1\_C_0}])/R_{ETL} \qquad (596d)$$

placing k'' at

$$k'' = [(v_{ETL} + v_{dS})/W_{vS})] \, (1 \text{ radian}) = 1.7459 \text{ arcseconds} \qquad (596e)$$

Clearly, both the ambipolar radiation and the gravitational pull travel a distance greater than that of the line of sight. The real distance from the Earth to the Sun traversed by the ambipolar radiation is the effective radius for the propagation of the virtual photon signal:

$$[\mathbf{C_1\_E_2}]] = [\mathbf{C_0\_E_0}] = ([\mathbf{C_0\_E_2}]^2 + [\mathbf{E_2\_E_0}]^2)^{0.5} = (R_{ETL}^2 + [\mathbf{E_2\_E_0}]^2)^{0.5} \qquad (597d)$$

whereas the real orbital radius is the distance covered by either of the gravitational pulls (from the Sun or from the Earth) - which will be shorter than this, and ever so slightly longer than R_G.

So, where does this leave Bradley's determination of the constant of aberration?

It would appear that the real aberration of sunlight is only 1.74 arcseconds, and that this corresponds to, or is translated by, the confabulated 20.49 arcseconds in the uniform c-based system. Thus, for the instance of the Sun/Earth couple, the conversion between the two systems, aetherometric and c-based, invokes a factor of size $\alpha^{-0.5}$. But this c-proportionality factor - even if its $\alpha^{-0.5}$ value may be central in a revised HR diagram - will vary from star to star, according to the ambipolar emission mode of the star's surface. Consequently, the sky map of the distances and velocities of stars will have to be thoroughly altered (for once, a good usage of AI...), since the c-based system of measuring star displacements unwittingly makes the implicit assumption that the wavespeed W_v of the modal emission from every star is identical to that of the Sun, i.e. to W_{vS}, when it obviously *is not*. These aetherometric considerations make the Bradley determination of v_{ETL} as a function of c, gratuitous. The sunlight that reaches the Earth is not 8.32 minutes old because it did not propagate electromagnetically from the Sun. Chosing to measure the aberration as a function of c is an arbitrary choice - one that, at best, can only be applied legitimately to the motion of other stars that have the same ambipolar emission mode as the Sun (irrespective of luminosity).

If this is so, then what to make of the 1/10,000 inclination of Bradley's telescope in the annual observation of γ Draconis? If one is to insist on its significance, then one would have to either:

1) Substantially alter the conventional notion that the Earth travels at v_{ETL} = 29.7826 km sec^{-1} around the Sun, since the velocity in question would then become

$v = W_{vS}/10{,}066 = 350.609$ km sec^{-1}

The obvious objection to this notion is that if R_{ETL} is, as shown above, confirmed as a constant in either case, then simple consideration shows that, elliptical and cycloidal as the Earth's orbit may be, v_{ETL} could never assume such a magnitude. If that is so, the velocity in question could not denote anything else either, since its periodicity appears to be annual. Yet, in reality, what one mostly encounters in the observation of the motion of visible star images, is an annual periodicity of oscillation in the constant transverse displacement of a star (see, for example, the well-known periodic and cascade-like "proper motion" of AD Leonis over a number of years that includes the parallactic motion).

2) Or assume, instead, that Bradley's resolution could not distinguish between inclinations of 1/10,000 vs 1/100,000. But this is unlikely, since the resolution of his telescope was ca. 1 arcsecond (in the c-based system). However, with the much greater resolutions that exist today, has anyone bothered to reproduce the accuracy of Bradley's inclination? None that we know of.

3) Or, still, boldly suggest that, in fact, the telescopic inclination of *circa* 1/10,000 was most adequate to measure not the motion of the Earth around the Sun, but something else that is

affected periodically by the Earth's motion around the Sun. If we bar as candidate (even though on the face of it, the best one...) the mythological "absolute velocity" of the solar system with respect to the mCBR - as given by the "hammered-in" relation

$$(T_{aniso}/T_{mCBR})\ c = (0.0032\ °K/2.73\ °K)\ c = 369.2\ \text{km sec}^{-1}$$

which we have debunked - all we are left with is the velocity of galactic translation at some 250 km sec^{-1}. This would call for an inclination of ~1/13,786, which may have been indistinguishable from 1/10,000 mechanically, or as a result of a combination of factors, such as emplacement, line of sight setting when the star crossed the meridian, parallax correction (which, with the same telescope, Bradley estimated to be between 0.5 and 2 arcseconds).

If we reject all three possibilities, then it becomes clear that the inclination and corresponding ratio may, however, have no other significance than providing the conversion to an Earth-centered c-based method of measurement, one which is unwittingly referred to the propagation speed of the ambipolar radiation emitted from the Sun, as given by ($c\sqrt{\alpha^{-1}}$).

Fig.3A

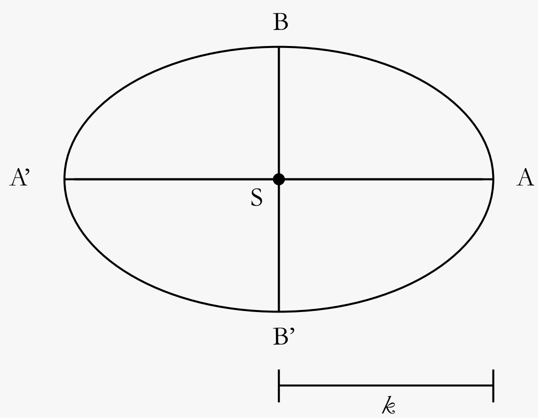
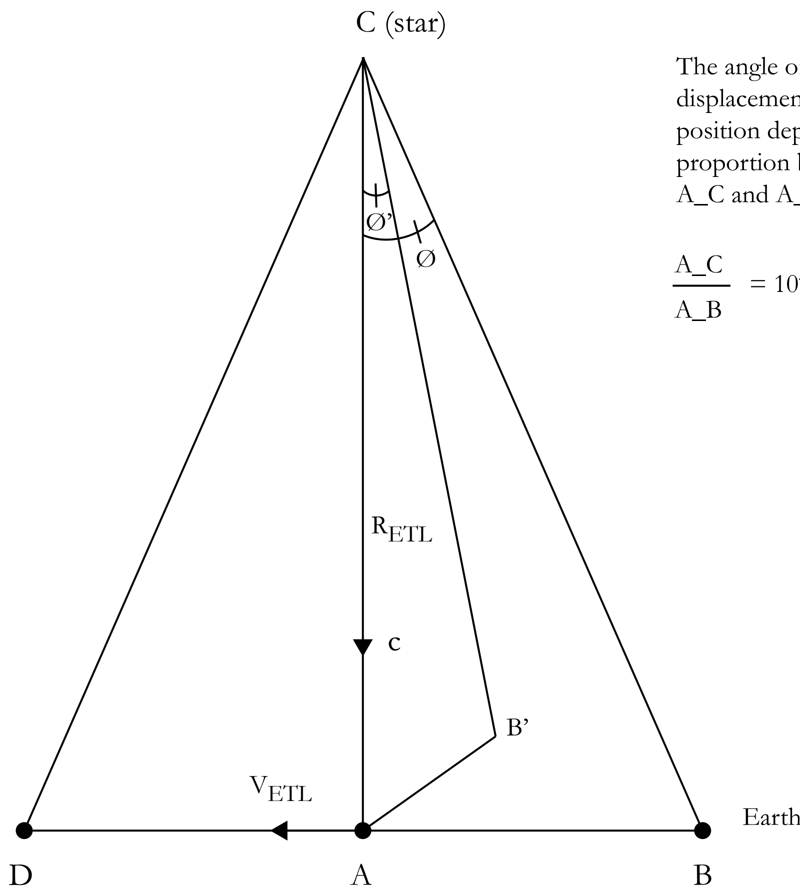


Fig. 3B

Bradley's Diagram



The angle of the star's transverse displacement from its true position depends on the proportion between lines A_C and A_B

$$\frac{A\_C}{A\_B} = 10^4 = \frac{c}{V_{ETL}}$$

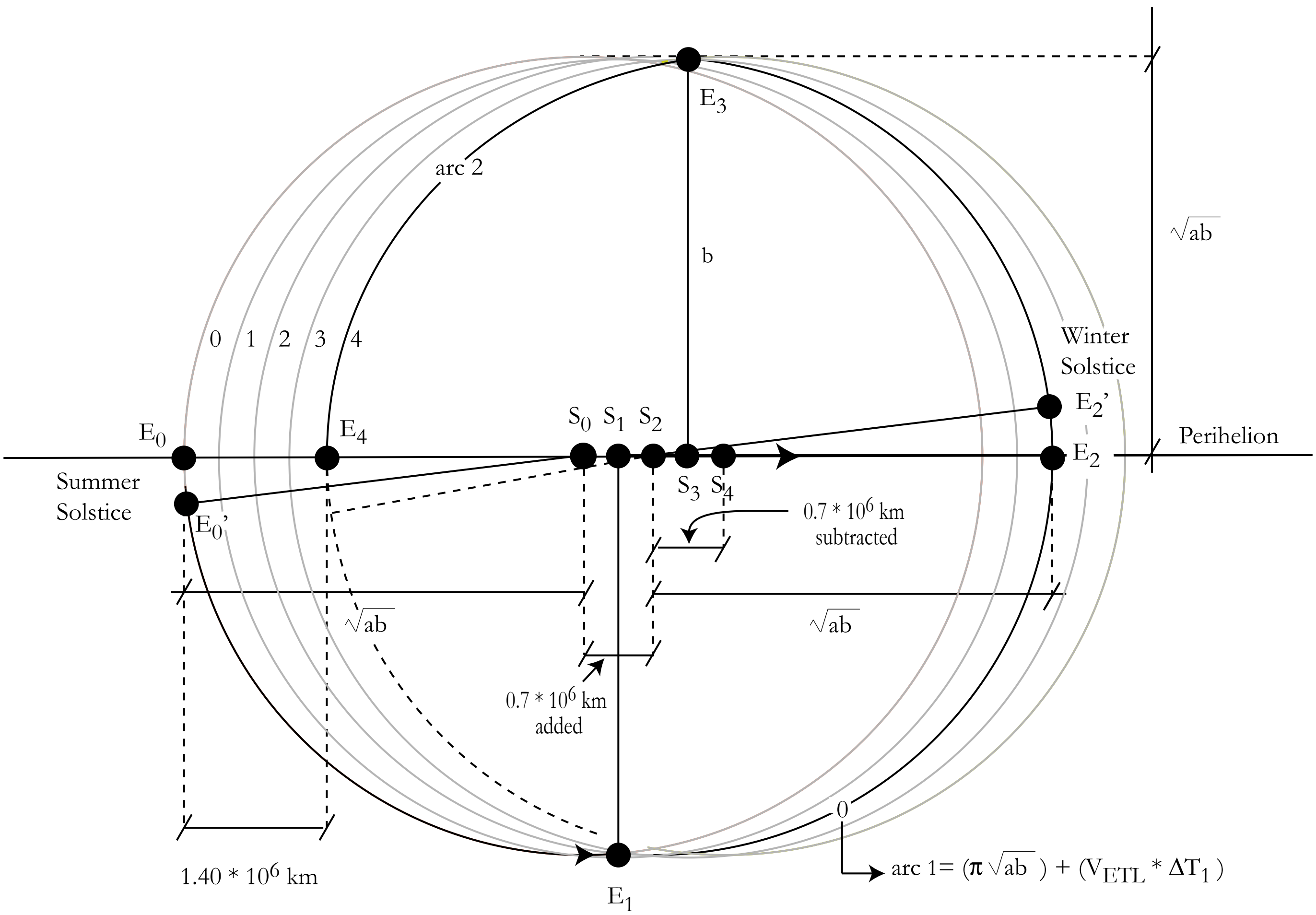
$R_{ETL} = A\_C$

$[C\_B] = \{[A\_B]^2 + [A\_C]^2\}^{0.5}$

$A\_B \cong R_{ETL}/10^4$

Fig. 3C

Ellipsoid deformation of a circular Copernican orbit due to the proposed solar drift. Remainder of the Keplerian elliptical displacement not shown.



Speed of solar displacement towards winter solstice

$$\frac{2\left(\frac{v_{ETL} * \Delta T_1}{\pi}\right)}{1 \text{ yr} = 8765.82\text{h}} = \frac{2\left(\frac{v_{ETL} * \Delta T_1}{\pi}\right)}{3.155695 * 10^7 \text{ sec}} = 44.481 \text{ m sec}^{-1}$$

N. B. With $R_{ETL} = \sqrt{a * b}$:

$$2 (v_{ETL} * \Delta T_1)/\pi = 1.4038 * 10^6 \text{ km}$$

Whereas with $R_{ETL} = (a + b)/2$:

$$2 (v_{ETL} * \Delta T_1)/\pi = 1.4037 * 10^6 \text{ km}$$

FIG. 3D

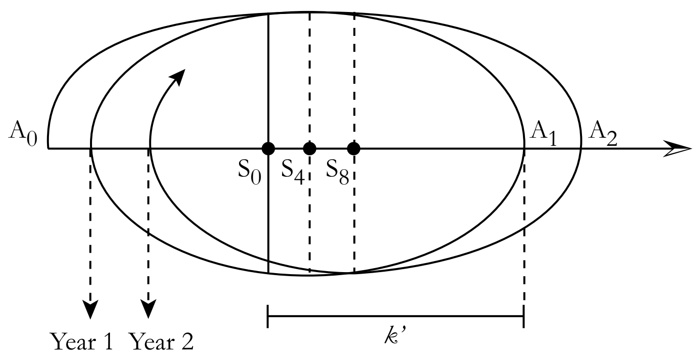
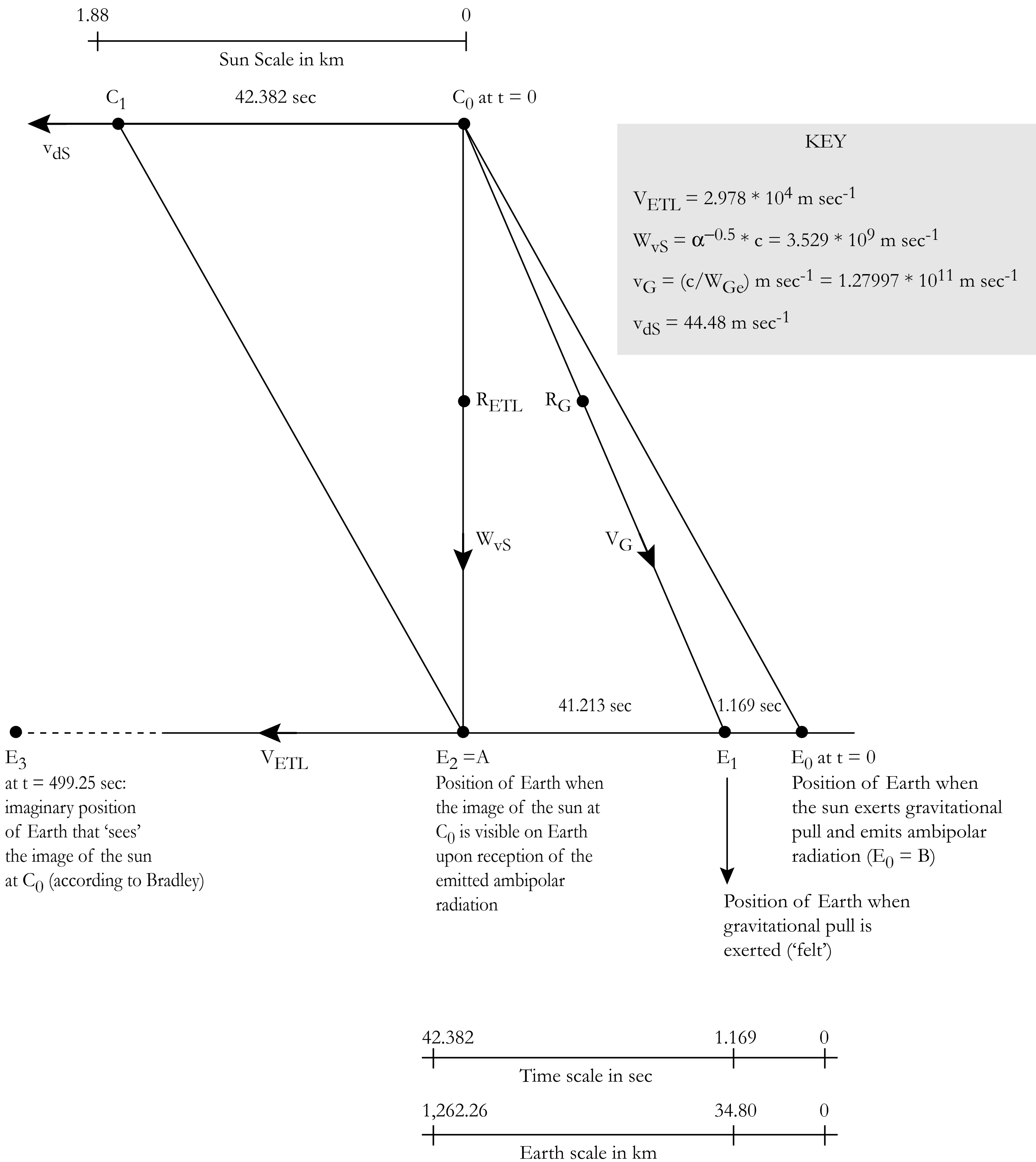


Fig. 3E



1.88
0
Sun Scale in km
C_1
42.382 sec
C_0 at t = 0
v_{dS}
KEY
V_{ETL} = 2.978 * 10^4 m sec^{-1}
W_{vS} = $\alpha^{-0.5}$ * c = 3.529 * 10^9 m sec^{-1}
v_G = (c/W_{Ge}) m sec^{-1} = 1.27997 * 10^{11} m sec^{-1}
v_{dS} = 44.48 m sec^{-1}
R_{ETL}
R_G
W_{vS}
V_G
41.213 sec
1.169 sec
V_{ETL}
E_3
at t = 499.25 sec:
imaginary position
of Earth that 'sees'
the image of the sun
at C_0 (according to Bradley)
E_2 =A
Position of Earth when
the image of the sun at
C_0 is visible on Earth
upon reception of the
emitted ambipolar
radiation
E_1
E_0 at t = 0
Position of Earth when
the sun exerts gravitational
pull and emits ambipolar
radiation (E_0 = B)
Position of Earth when
gravitational pull is
exerted ('felt')
42.382
1.169
0
Time scale in sec
1,262.26
34.80
0
Earth scale in km

Fig. 3F

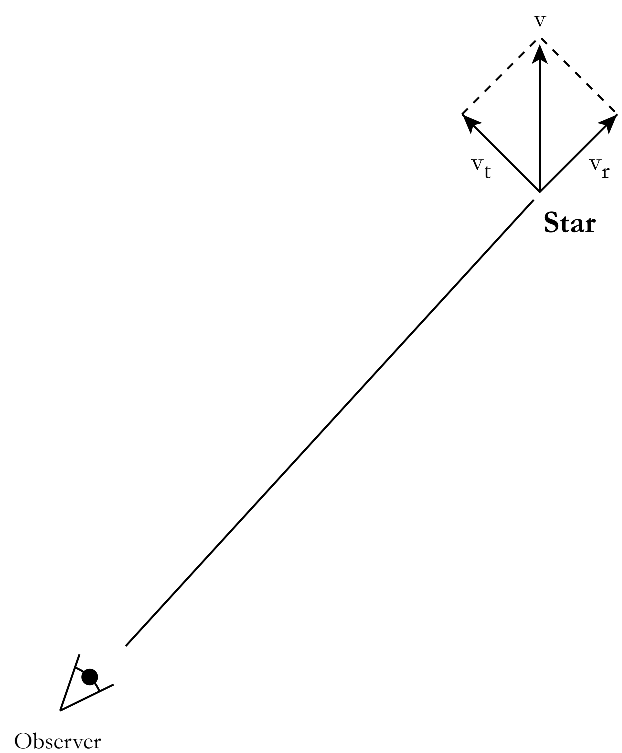


TABLE 1

I. CONVENTIONAL

$R_{ETL} = (a+ b)/2 = 1.496 * 10^{11}$ m

$P = 3.1556 * 10^{7}$ sec

$V_{ETL} = \pi(a+ b)/P \cong c/10^4$

$P_1 = 1.5852 * 10^7$ sec = 183.478 d (summer to winter)

$P_2 = 1.5704 * 10^7$ sec = 181.76 d (winter to summer)

Bradley's aberration: (Fig. 3C)

$[C_0\_A] = R_{ETL}$ (optical line) $= (a + b)/2$

$[E_3\_E_0] = (R_{ETL}\, v_{ETL})/c \cong R_{ETL}/10^4$

$[C_0\_A]/[E_3\_E_0] = c/v_{ETL} \cong 10^4$

II. AETHEROMETRIC

$[v_{ETL} = 2\pi \sqrt{a * b}/P = 2.97826 * 10^4 \text{ m sec}^{-1}$

$\Delta T_1 = P_1 - (P/2) = 7.4034 * 10^4$ sec

$\Delta T_2 = P_2 - (P/2) = -7.4034 * 10^4$ sec

Radial displacement towards perihelion: $(v_{ETL} * \Delta T_1)/\pi = (2.2049 * 10^9 \text{ m})/\pi = 0.7018 * 10^6$ km

Radial displacement away from aphelion: $(v_{ETL} * \Delta T_1)/\pi = -0.7018 * 10^6$ km

Speed of solar radial displacement towards winter solstice:

$v_{dS} = [2(v_{ETL} * \Delta T_1)/\pi]/P = 44.48 \text{ m sec}^{-1}$

<u>Light aberration (case of Sun)</u>: (Fig. 3C)

Distance to Sun at t = 0:

$[C_0\_E_0] = \{R_{ETL}^2 + [E_2\_E_0]^2\}^{0.5}$

$[E_2\_E_0] = \{[C_0\_E_0]^2 - R_{ETL}^2\}^{0.5} = (R_{ETL}/W_{vS}) * v_{ETL} = 1.262258 * 10^6$ m

where

$R_{ETL}/W_{vS} = 42.382$ sec

- $[C_1\_C_0] = (R_{ETL}/W_{vS}) * v_{dS} = 1.8852 * 10^3$ m
- Apparent gravitational radius:

$R_G = [C_0\_E_1] = \{[C_0\_E_2]^2 + [E_2\_E_1]^2\}^{0.5}$

- $R_{ETL} = \sqrt{a * b} = \{[C_0\_E_1]^2 - [E_2\_E_1]^2\}^{0.5} = \{R_G^2 - [E_2\_E_1]^2\}^{0.5} =$

$= \{[C_0\_E_0]^2 - [E_2\_E_0]^2\}^{0.5} = 1.49597 * 10^{11}$ m

- $[E_1\_E_0] = v_{ETL}(R_G/v_G) \cong v_{ETL}(R_{ETL}/v_G) = 3.4804 * 10^4$ m

where

$R_{ETL}/v_G = 1.1686$ sec