

Relativity failures nail # 6

Alpha Coronae Borealis binary stars apsidal motion puzzle solution

The Problem that Einstein and the 100,000 Space - time physicists could not solve by space-time physics or any said or published physics

Binary Stars Apsidal Motion Puzzle Solution

By Professor Joe Nahhas 1986

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Greetings: My name is **Joe Nahhas**. I am the founder of **real time physics** July 4th, 1973
It is the fact that not only Einstein is wrong but all 100,000 living physicists are wrong and the 100,000 passed away physicists were wrong because physics is wrong for past 350 years. This is the problem where relativity theory collapsed. The simplest problem in all of physics is the two body problem where two eclipsing stars in motion in front of modern telescopes and computerized equipment taking data and said "NO" to relativity. For 350 years Newton's equations were solved wrong and the new solution is a real time physics solution of $r(\theta, t) = [a(1-\epsilon^2)/(1+\epsilon \cos \theta)] e^{[\lambda(t) + i\omega(t)]t}$

That gave apsidal rate better than anything said or published in all of physics of:
 $W^\circ (\text{Cal}) = (-720 \times 36526/T) \{[\sqrt{1-\epsilon^2}]/(1-\epsilon)^2\} [(v^\circ + v^*)/c]^2 \text{ degrees}/100 \text{ years}$

Abstract: Alpha – CRB binary stars is a set of binary stars Astronomers gave the apsidal motion to be 46,000 +/- 8,000 years. However, they did not give reliable information about the stars spin. An estimate of 110 km/sec for the primary but a 14km/sec for secondary seems too low and the suggestion of 197km/sec is not a solution. The apsidal motion formula gives 38,000 years + 8,000 to a total of 46,000 km/sec within experimental errors for the secondary spin of 14 km/sec. Although 197 km/sec can justify closer results 197 km/sec is not a solution because 197 km/sec spin speed for a star smaller than the sun is not common. For over two decades scientists did not bother to improve the 1986 data and here is the solution because this solution is the best solution available and the solution says relativity theory is bad physics

Real time Universal Mechanics Solution: For 350 years Physicists Astronomers and Mathematicians missed Kepler's time dependent equation introduced here and transformed Newton's equation into a time dependent Newton' equation and together these two equations explain apsidal motion as "apparent" light aberrations visual effects along the line of sight due to differences between time dependent measurements and time independent measurements These two equations combines classical mechanics and quantum mechanics into one Universal mechanics solution and in practice it amounts to measuring light aberrations of moving objects of angular velocity at Apses.

All there is in the Universe is objects of mass m moving in space (x, y, z) at a location $\mathbf{r} = \mathbf{r}(x, y, z)$. The state of any object in the Universe can be expressed as the product $\mathbf{S} = m \mathbf{r}$; State = mass x location:

$$\begin{aligned} \mathbf{P} &= d \mathbf{S}/d t = m (d \mathbf{r}/d t) + (dm/d t) \mathbf{r} = \text{Total moment} \\ &= \text{change of location} + \text{change of mass} \\ &= m \mathbf{v} + m' \mathbf{r}; \mathbf{v} = \text{velocity} = d \mathbf{r}/d t; m' = \text{mass change rate} \end{aligned}$$

$$\begin{aligned} \mathbf{F} &= d \mathbf{P}/d t = d^2 \mathbf{S}/d t^2 = \text{Total force} \\ &= m (d^2 \mathbf{r}/d t^2) + 2(dm/d t) (d \mathbf{r}/d t) + (d^2 m/d t^2) \mathbf{r} \\ &= m \boldsymbol{\gamma} + 2m' \mathbf{v} + m'' \mathbf{r}; \boldsymbol{\gamma} = \text{acceleration}; m'' = \text{mass acceleration rate} \end{aligned}$$

In polar coordinates system

We Have $\mathbf{r} = r \mathbf{r}(1); \mathbf{v} = r' \mathbf{r}(1) + r \theta' \boldsymbol{\theta}(1); \boldsymbol{\gamma} = (r'' - r\theta'^2)\mathbf{r}(1) + (2r'\theta' + r\theta'')\boldsymbol{\theta}(1)$

\mathbf{r} = location; \mathbf{v} = velocity; $\boldsymbol{\gamma}$ = acceleration

$$\mathbf{F} = m \boldsymbol{\gamma} + 2m' \mathbf{v} + m'' \mathbf{r}$$

$$\begin{aligned} \mathbf{F} &= m [(r'' - r\theta'^2) \mathbf{r}(1) + (2r'\theta' + r\theta'') \boldsymbol{\theta}(1)] + 2m'[r' \mathbf{r}(1) + r \theta' \boldsymbol{\theta}(1)] + (m'' \mathbf{r}) \mathbf{r}(1) \\ &= [d^2 (m r)/d t^2 - (m r) \theta'^2] \mathbf{r}(1) + (1/mr) [d (m^2 r^2 \theta')/d t] \boldsymbol{\theta}(1) \\ &= [-GmM/r^2] \mathbf{r}(1) \text{ ----- Newton's Gravitational Law} \end{aligned}$$

Proof:

$$\text{First } \mathbf{r} = r [\text{cosine } \theta \hat{\mathbf{i}} + \text{sine } \theta \hat{\mathbf{j}}] = r \mathbf{r}(1)$$

$$\text{Define } \mathbf{r}(1) = \text{cosine } \theta \hat{\mathbf{i}} + \text{sine } \theta \hat{\mathbf{j}}$$

$$\text{Define } \mathbf{v} = d \mathbf{r}/d t = r' \mathbf{r}(1) + r d[\mathbf{r}(1)]/d t$$

$$\begin{aligned}
&= r' \mathbf{r} (1) + r \theta' [-\text{sine } \theta \hat{\mathbf{i}} + \text{cosine } \theta \hat{\mathbf{j}}] \\
&= r' \mathbf{r} (1) + r \theta' \boldsymbol{\theta} (1)
\end{aligned}$$

Define $\boldsymbol{\theta} (1) = -\text{sine } \theta \hat{\mathbf{i}} + \text{cosine } \theta \hat{\mathbf{j}}$;
And with $\mathbf{r} (1) = \text{cosine } \theta \hat{\mathbf{i}} + \text{sine } \theta \hat{\mathbf{j}}$

Then $d [\boldsymbol{\theta} (1)]/d t = \theta' [-\text{cosine } \theta \hat{\mathbf{i}} - \text{sine } \theta \hat{\mathbf{j}}] = -\theta' \mathbf{r} (1)$
And $d [\mathbf{r} (1)]/d t = \theta' [-\text{sine } \theta \hat{\mathbf{i}} + \text{cosine } \theta \hat{\mathbf{j}}] = \theta' \boldsymbol{\theta} (1)$

Define $\boldsymbol{\gamma} = d [r' \mathbf{r} (1) + r \theta' \boldsymbol{\theta} (1)] / d t$
 $= r'' \mathbf{r} (1) + r' d [\mathbf{r} (1)]/d t + r' \theta' \mathbf{r} (1) + r \theta'' \mathbf{r} (1) + r \theta' d [\boldsymbol{\theta} (1)]/d t$
 $\boldsymbol{\gamma} = (r'' - r\theta'^2) \mathbf{r} (1) + (2r'\theta' + r\theta'') \boldsymbol{\theta} (1)$

With $d^2 (m r)/dt^2 - (m r) \theta'^2 = -GmM/r^2$ Newton's Gravitational Equation (1)

And $d (m^2 r^2 \theta')/d t = 0$ Central force law (2)

(2): $d (m^2 r^2 \theta')/d t = 0$

Then $m^2 r^2 \theta' = \text{constant}$

$$\begin{aligned}
&= H (0, 0) \\
&= m^2 (0, 0) h (0, 0); h (0, 0) = r^2 (0, 0) \theta' (0, 0) \\
&= m^2 (0, 0) r^2 (0, 0) \theta' (0, 0); h (\theta, 0) = [r^2 (\theta, 0)] [\theta' (\theta, 0)] \\
&= [m^2 (\theta, 0)] h (\theta, 0); h (\theta, 0) = [r^2 (\theta, 0)] [\theta' (\theta, 0)] \\
&= [m^2 (\theta, 0)] [r^2 (\theta, 0)] [\theta' (\theta, 0)] \\
&= [m^2 (\theta, t)] [r^2 (\theta, t)] [\theta' (\theta, t)] \\
&= [m^2 (\theta, 0) m^2 (0, t)] [r^2 (\theta, 0) r^2 (0, t)] [\theta' (\theta, t)] \\
&= [m^2 (\theta, 0) m^2 (0, t)] [r^2 (\theta, 0) r^2 (0, t)] [\theta' (\theta, 0) \theta' (0, t)]
\end{aligned}$$

With $m^2 r^2 \theta' = \text{constant}$

Differentiate with respect to time

Then $2mm'r^2\theta' + 2m^2rr'\theta' + m^2r^2\theta'' = 0$

Divide by $m^2r^2\theta'$

Then $2 (m'/m) + 2(r'/r) + \theta''/\theta' = 0$

This equation will have a solution $2 (m'/m) = 2[\lambda (m) + i \omega (m)]$

And $2(r'/r) = 2[\lambda (r) + i \omega (r)]$

And $\theta''/\theta' = -2\{\lambda (m) + \lambda (r) + i [\omega (m) + \omega (r)]\}$

Then $(m'/m) = [\lambda (m) + i \omega (m)]$

Or $d m/m d t = [\lambda (m) + i \omega (m)]$

And $dm/m = [\lambda (m) + i \omega (m)] d t$

Then $m = m (0) e^{[\lambda (m) + i \omega (m)] t}$

$$m = m (0) m (0, t); m (0, t) e^{[\lambda (m) + i \omega (m)] t}$$

With initial spatial condition that can be taken at $t = 0$ anywhere then $m (0) = m (\theta, 0)$

And $m = m (\theta, 0) m (0, t) = m (\theta, 0) e^{[\lambda (m) + i \omega (m)] t}$

And $m (0, t) = e^{[\lambda (m) + i \omega (m)] t}$

Similarly we can get

Also, $r = r(\theta, 0) r(0, t) = r(\theta, 0) e^{[\lambda(r) + i\omega(r)] t}$

With $r(0, t) = e^{[\lambda(r) + i\omega(r)] t}$

Then $\theta'(\theta, t) = \{H(0, 0)/[m^2(\theta, 0) r(\theta, 0)]\} e^{-2\{[\lambda(m) + \lambda(r)] + i[\omega(m) + \omega(r)]\} t}$ -----I

And $\theta'(\theta, t) = \theta'(\theta, 0) e^{-2\{[\lambda(m) + \lambda(r)] + i[\omega(m) + \omega(r)]\} t}$ -----I

And, $\theta'(\theta, t) = \theta'(\theta, 0) \theta'(0, t)$

And $\theta'(0, t) = e^{-2\{[\lambda(m) + \lambda(r)] + i[\omega(m) + \omega(r)]\} t}$

Also $\theta'(\theta, 0) = H(0, 0)/m^2(\theta, 0) r^2(\theta, 0)$

And $\theta'(0, 0) = \{H(0, 0)/[m^2(0, 0) r(0, 0)]\}$

With (1): $d^2(m r)/dt^2 - (m r) \theta'^2 = -GmM/r^2 = -Gm^3M/m^2r^2$

And $d^2(m r)/dt^2 - (m r) \theta'^2 = -Gm^3(\theta, 0) m^3(0, t) M/(m^2r^2)$

Let $m r = 1/u$

Then $d(m r)/dt = -u'/u^2 = -(1/u^2) (\theta') du/d\theta = (-\theta'/u^2) du/d\theta = -H du/d\theta$

And $d^2(m r)/dt^2 = -H\theta' d^2u/d\theta^2 = -Hu^2 [d^2u/d\theta^2]$

$-Hu^2 [d^2u/d\theta^2] - (1/u) (Hu^2)^2 = -Gm^3(\theta, 0) m^3(0, t) Mu^2$

$[d^2u/d\theta^2] + u = Gm^3(\theta, 0) m^3(0, t) M/H^2$

$t = 0; m^3(0, 0) = 1$

$u = Gm^3(\theta, 0) M/H^2 + A \cos \theta = Gm(\theta, 0) M(\theta, 0)/h^2(\theta, 0)$

And $m r = 1/u = 1/[Gm(\theta, 0) M(\theta, 0)/h(\theta, 0) + A \cos \theta]$

$= [h^2/Gm(\theta, 0) M(\theta, 0)] / \{1 + [Ah^2/Gm(\theta, 0) M(\theta, 0)] [\cos \theta]\}$

$= [h^2/Gm(\theta, 0) M(\theta, 0)] / (1 + \epsilon \cos \theta)$

Then $m(\theta, 0) r(\theta, 0) = [a(1-\epsilon^2)/(1 + \epsilon \cos \theta)] m(\theta, 0)$

Dividing by $m(\theta, 0)$

Then $r(\theta, 0) = a(1-\epsilon^2)/(1 + \epsilon \cos \theta)$

This is Newton's Classical Equation solution of two body problem which is the equation of an ellipse of semi-major axis of length a and semi minor axis $b = a \sqrt{1 - \epsilon^2}$ and focus length $c = \epsilon a$

And $m r = m(\theta, t) r(\theta, t) = m(\theta, 0) m(0, t) r(\theta, 0) r(0, t)$

Then, $r(\theta, t) = [a(1-\epsilon^2)/(1 + \epsilon \cos \theta)] e^{[\lambda(r) + i\omega(r)] t}$ ----- II

This is Newton's time dependent equation that is missed for 350 years

If $\lambda(m) \approx 0$ fixed mass and $\lambda(r) \approx 0$ fixed orbit; then

Then $r(\theta, t) = r(\theta, 0) r(0, t) = [a(1-\epsilon^2)/(1 + \epsilon \cos \theta)] e^{i\omega(r) t}$

And $m = m(\theta, 0) e^{+i\omega(m) t} = m(\theta, 0) e^{i\omega(m) t}$

We Have $\theta'(0, 0) = h(0, 0)/r^2(0, 0) = 2\pi ab/Ta^2(1-\epsilon)^2$

$= 2\pi a^2 [\sqrt{1-\epsilon^2}]/T a^2(1-\epsilon)^2$

$= 2\pi [\sqrt{1-\epsilon^2}]/T(1-\epsilon)^2$

Then $\theta'(0, t) = \{2\pi [\sqrt{1-\epsilon^2}]/T(1-\epsilon)^2\} \text{Exp}\{-2[\omega(m) + \omega(r)] t$

$= \{2\pi [\sqrt{1-\epsilon^2}]/(1-\epsilon)^2\} \{\cos 2[\omega(m) + \omega(r)] t - i \sin 2[\omega(m) + \omega(r)] t\}$

$= \theta'(0, 0) \{1 - 2\sin^2[\omega(m) + \omega(r)] t\}$

$$- 2i \theta'(0, 0) \sin [\omega (m) + \omega (r)] t \cosine [\omega (m) + \omega (r)] t$$

$$\text{Then } \theta'(0, t) = \theta'(0, 0) \{1 - 2\text{sine}^2 [\omega (m) t + \omega (r) t]\} \\ - 2i \theta'(0, 0) \sin [\omega (m) + \omega(r)] t \cosine [\omega (m) + \omega(r)] t$$

$$\Delta \theta' (0, t) = \text{Real } \Delta \theta' (0, t) + \text{Imaginary } \Delta \theta (0, t) \\ \text{Real } \Delta \theta (0, t) = \theta'(0, 0) \{1 - 2 \text{sine}^2 [\omega (m) t \omega(r) t]\}$$

$$\text{Let } W (\text{cal}) = \Delta \theta' (0, t) (\text{observed}) = \text{Real } \Delta \theta (0, t) - \theta'(0, 0) \\ = -2\theta'(0, 0) \text{sine}^2 [\omega (m) t + \omega(r) t] \\ = -2[2\pi [\sqrt{(1-\epsilon^2)}/T (1-\epsilon)^2] \text{sine}^2 [\omega (m) t + \omega(r) t] \\ \text{And } W (\text{cal}) = -4\pi [\sqrt{(1-\epsilon^2)}/T (1-\epsilon)^2] \text{sine}^2 [\omega (m) t + \omega(r) t]$$

If this apsidal motion is to be found as visual effects, then

With, v° = spin velocity; v^* = orbital velocity; $v^\circ/c = \tan \omega (m) T^\circ$; $v^*/c = \tan \omega (r) T^*$
Where T° = spin period; T^* = orbital period

$$\text{And } \omega (m) T^\circ = \text{Inverse tan } v^\circ/c; \omega (r) T^* = \text{Inverse tan } v^*/c \\ W (\text{ob}) = -4 \pi [\sqrt{(1-\epsilon^2)}/T (1-\epsilon)^2] \text{sine}^2 [\text{Inverse tan } v^\circ/c + \text{Inverse tan } v^*/c] \text{ radians} \\ \text{Multiplication by } 180/\pi$$

$$W (\text{ob}) = (-720/T) \{[\sqrt{(1-\epsilon^2)}/(1-\epsilon)^2]\} \text{sine}^2 \{[\text{Inverse tan } [v^\circ/c + v^*/c]/ [1 - v^\circ v^*/c^2]]\} \\ \text{degrees and multiplication by 1 century} = 36526 \text{ days and using } T \text{ in days}$$

$$W^\circ (\text{ob}) = (-720 \times 36526 / T \text{ days}) \{[\sqrt{(1-\epsilon^2)}/(1-\epsilon)^2]\} \times \\ \text{sine}^2 \{[\text{Inverse tan } [v^\circ/c + v^*/c]/ [1 - v^\circ v^*/c^2]]\} \text{ degrees/100 years}$$

Approximations I

With $v^\circ \ll c$ and $v^* \ll c$, then $v^\circ v^* \ll c^2$ and $[1 - v^\circ v^*/c^2] \approx 1$
Then $W^\circ (\text{ob}) \approx (-720 \times 36526 / T \text{ days}) \{[\sqrt{(1-\epsilon^2)}/(1-\epsilon)^2]\} \times \text{sine}^2 \text{Inverse tan } [v^\circ/c + v^*/c]$
degrees/100 years

Approximations II

With $v^\circ \ll c$ and $v^* \ll c$, then $\text{sine Inverse tan } [v^\circ/c + v^*/c] \approx (v^\circ + v^*)/c$
 $W^\circ (\text{ob}) = (-720 \times 36526 / T \text{ days}) \{[\sqrt{(1-\epsilon^2)}/(1-\epsilon)^2]\} \times [(v^\circ + v^*)/c]^2 \text{ degrees/100 years}$
This is the equation that gives the correct apsidal motion rates -----III

The circumference of an ellipse: $2\pi a (1 - \epsilon^2/4 + 3/16(\epsilon^2)^2 - \dots) \approx 2\pi a (1 - \epsilon^2/4)$; $R = a (1 - \epsilon^2/4)$
Where $v (m) = \sqrt{[GM^2 / (m + M) a (1 - \epsilon^2/4)]}$
And $v (M) = \sqrt{[Gm^2 / (m + M) a (1 - \epsilon^2/4)]}$
Looking from top or bottom at two stars they either spin in clock (↑) wise or counter clockwise (↓)
Looking from top or bottom at two stars they either approach each other coming from the top (↑) or from the bottom (↓)

Knowing this we can construct a table and see how these two stars are formed. There are many combinations of velocity additions and subtractions and one combination will give the right answer.

Alpha CRB Spin - Orbit velocities Table:

Primary → Secondary ↓	$v^\circ(p) \uparrow v^*(p) \uparrow$	$v^\circ(p) \uparrow v^*(p) \downarrow$	$v^\circ(p) \downarrow v^*(p) \uparrow$	$v^\circ(p) \downarrow v^*(p) \downarrow$
$v^\circ(s) \uparrow v^*(s) \uparrow$	Spin= $[\uparrow, \uparrow]$ $[\uparrow, \uparrow]$ =orbit	$[\uparrow, \uparrow][\downarrow, \uparrow]$	$[\downarrow, \uparrow][\uparrow, \uparrow]$	$[\downarrow, \uparrow][\downarrow, \uparrow]$
Spin results	$v^\circ(p) + v^\circ(s)$	$v^\circ(p) + v^\circ(s)$	$-v^\circ(p) + v^\circ(s)$	$-v^\circ(p) + v^\circ(s)$
Orbit results	$v^*(p) + v^*(s)$	$-v^*(p) + v^*(s)$	$v^*(p) + v^*(s)$	$-v^*(p) + v^*(s)$
Examples				
$v^\circ(s) \uparrow v^*(s) \downarrow$	$[\uparrow, \uparrow][\uparrow, \downarrow]$	$[\uparrow, \uparrow][\downarrow, \downarrow]$	$[\downarrow, \uparrow][\uparrow, \downarrow]$	$[\downarrow, \uparrow][\downarrow, \downarrow]$
Spin results	$v^\circ(p) + v^\circ(s)$	$v^\circ(p) + v^\circ(s)$	$-v^\circ(p) + v^\circ(s)$	$-v^\circ(p) + v^\circ(s)$
Orbit results	$v^*(p) - v^*(s)$	$-v^*(p) - v^*(s)$	$v^*(p) - v^*(s)$	$-v^*(p) - v^*(s)$
Examples				
$v^\circ(p) \downarrow v^*(s) \uparrow$	$[\uparrow, \downarrow][\uparrow, \uparrow]$	$[\uparrow, \downarrow][\downarrow, \uparrow]$	$[\downarrow, \downarrow][\uparrow, \uparrow]$	$[\downarrow, \downarrow][\downarrow, \uparrow]$
Spin results	$v^\circ(p) - v^\circ(s)$	$v^\circ(p) - v^\circ(s)$	$-v^\circ(p) - v^\circ(s)$	$-v^\circ(p) - v^\circ(s)$
Orbit results	$v^*(p) + v^*(s)$	$-v^*(p) + v^*(s)$	$v^*(p) + v^*(s)$	$-v^*(p) + v^*(s)$
Examples				
$v^\circ(s) \downarrow v^*(s) \downarrow$	$[\uparrow, \downarrow][\uparrow, \downarrow]$	$[\uparrow, \downarrow][\downarrow, \downarrow]$	$[\downarrow, \downarrow][\uparrow, \downarrow]$	$[\downarrow, \downarrow][\downarrow, \downarrow]$
Spin results	$v^\circ(p) - v^\circ(s)$	$v^\circ(p) - v^\circ(s)$	$-v^\circ(p) - v^\circ(s)$	$-v^\circ(p) - v^\circ(s)$
Orbit results	$v^*(p) - v^*(s)$	$-v^*(p) - v^*(s)$	$v^*(p) - v^*(s)$	$-v^*(p) - v^*(s)$
Examples				

1- Advance of Perihelion of mercury. [No spin factor] Because data are given with no spin factor

$G=6.673 \times 10^{-11}$; $M=2 \times 10^{30}$ kg; $m=.32 \times 10^{24}$ kg; $\epsilon = 0.206$; $T=88$ days

And $c = 299792.458$ km/sec; $a = 58.2$ km/sec; $1-\epsilon^2/4 = 0.989391$

With $v^\circ = 2$ meters/sec

And $v^* = \sqrt{[GM/a (1-\epsilon^2/4)]} = 48.14$ km/sec

Calculations yields: $v = v^* + v^\circ = 48.14$ km/sec (mercury)

And $[\sqrt{(1-\epsilon^2)}] (1-\epsilon)^2 = 1.552$

$W''(ob) = (-720 \times 36526 \times 3600/T) \{[\sqrt{(1-\epsilon^2)}] / (1-\epsilon)^2\} (v/c)^2$

$W''(ob) = (-720 \times 36526 \times 3600/88) \times (1.552) (48.14/299792)^2 = 43.0''$ /century

This is the rate of for the advance of perihelion of planet mercury explained as "apparent" without the use of fictional forces or fictional universe of space-time confusions of physics of relativity.

Venus Advance of perihelion solution:

$W''(ob) = (-720 \times 36526 \times 3600/T) \{[\sqrt{(1-\epsilon^2)}] / (1-\epsilon)^2\} [(v^\circ + v^*)/c]^2$ seconds/100 years

Data: $T=244.7$ days $v^\circ = v^\circ(p) = 6.52$ km/sec; $\epsilon = 0.00068$; $v^*(p) = 35.12$

Calculations

$$1-\varepsilon = 0.0068; (1-\varepsilon^2/4) = 0.99993; [\sqrt{(1-\varepsilon^2)}] / (1-\varepsilon)^2 = 1.00761$$
$$G=6.673 \times 10^{-11}; M_{(0)} = 1.98892 \times 10^{30} \text{kg}; R = 108.2 \times 10^9 \text{m}$$

$$V^*(p) = \sqrt{[GM^2 / (m + M) a (1-\varepsilon^2/4)]} = 41.64 \text{ km/sec}$$

Advance of perihelion of Venus motion is given by this formula:

$$W''(\text{ob}) = (-720 \times 36526 \times 3600 / T) \{[\sqrt{(1-\varepsilon^2)}] / (1-\varepsilon)^2\} [(v^\circ + v^*) / c]^2 \text{ seconds/100 years}$$

$$W''(\text{ob}) = (-720 \times 36526 \times 3600 / T) \{[\sqrt{(1-\varepsilon^2)}] / (1-\varepsilon)^2\} \text{ sine}^2 [\text{Inverse tan } 41.64 / 300,000]$$
$$= (-720 \times 36526 \times 3600 / 224.7) (1.00762) (41.64 / 300,000)^2$$

W'' (observed) = 8.2''/100 years; observed 8.4''/100 years

This is the rate of for the advance of perihelion of planet mercury explained as "apparent" without the use of fictional forces or fictional universe of space-time confusions of physics of relativity.

Next the same equation will be used to find the advance of Periastron or "apparent" apsidal motion of Alpha - CRB binary stars system.

Alpha - CRB apsidal motion solution:

Data $T = 17.36$; $a = 28.9 \times 10^9 \text{m/sec}$; $[v^\circ(m), v^\circ(M)] = [110, 14]$; $\varepsilon = 0.37$; $1-\varepsilon = 0.63$

With $m = 2.58 M_{(0)}$; $M = 0.92 M_{(0)}$; $m + M = 3.5 M_{(0)}$

Calculations

$$G=6.673 \times 10^{-11}; M_{(0)} = 1.98892 \times 10^{30} \text{kg}; R_{(0)} = 0.696 \times 10^9 \text{m}$$

$$\text{And } [\sqrt{(1-\varepsilon^2)}] / (1-\varepsilon)^2 = 2.34$$

$$\text{And } v(m) = \sqrt{[GM^2 / (m + M) a]} = 32.9 \text{ km/sec}$$

$$\text{And } v(M) = \sqrt{[GM^2 / (m + M) a]} = 92.289674 \text{ km/sec}$$

And: $v^\circ = v^\circ(p) + v^\circ(s) = 110 \text{km/s} - 14 \text{km/s} = 96 \text{ km/sec}$

Orbit: With $v^* = v^*(p) - v^*(s) = 59.389674 \text{ km/sec}$

$$\text{Then } v^* + v^\circ = 155.389674$$

$$W(\text{ob}) = (-720 \times 36526 / T) \times \{[\sqrt{(1-\varepsilon^2)}] / (1-\varepsilon)^2\} \{[v^* + v^\circ] / c\}^2$$

$$W^\circ(\text{observed}) = (-720 \times 36526 / 17.36) \times (2.34) \{155.389674 / 300,000\}^2$$

$$= 0.95 \text{ }^\circ/\text{century or } U = 38,000; \text{OBSERVED is } 0.74 \text{ }^\circ/\text{century}$$

$$\text{Or, } U = 46,000 \text{ }^\pm 8,000$$

Within scientific errors

References: Apsidal motion of Alpha-C r b binary stars 1986.

By Tomkin, Popper.

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