Relativity failures # 1: As Camelopardalis binary stars motion

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

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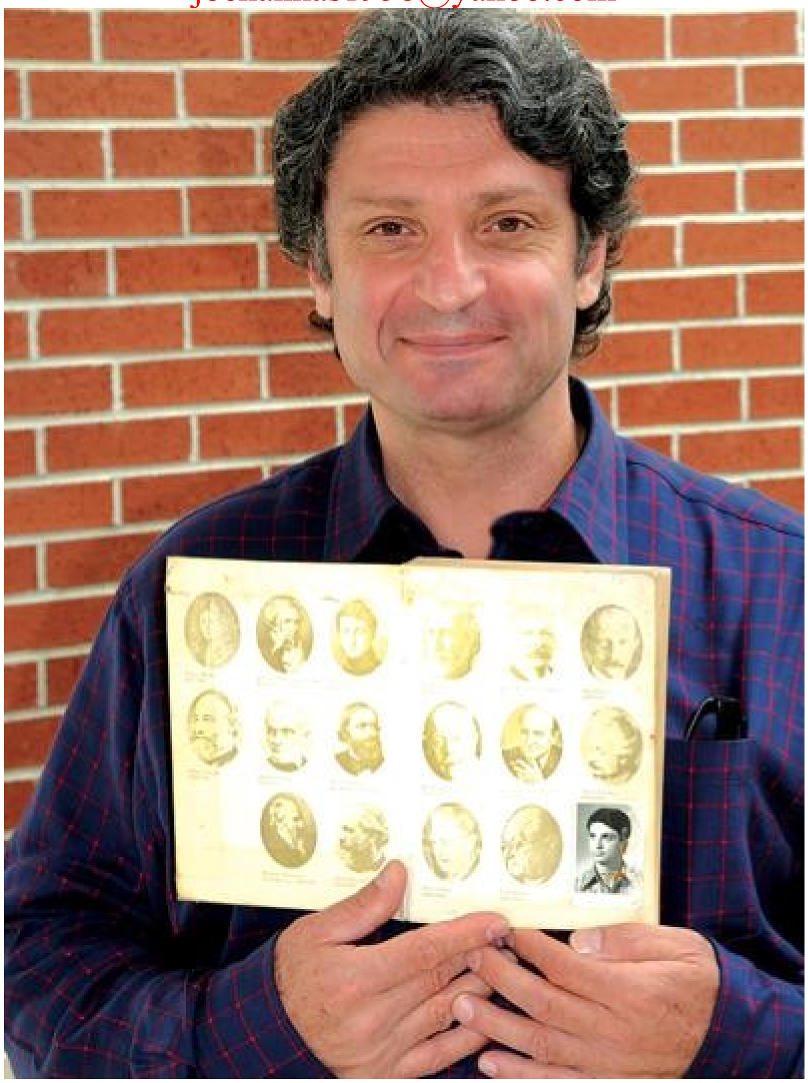

Greetings: My name is Joe Nahhas. I am the founder of real time physics July 4th, 1973
It is the fact that not only Einstein is wrong but all 100,000 living physicists are wrong and the 100,000 passed away physicists were wrong because physics is wrong for past 350 years. This is the problem where relativity 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 said "NO" to relativity.

Abstract: This is the solution to the 40 years most studied eclipsing detached binary stars with high rate orbit axial rotations puzzle that made astrophysicists wipe their glasses and wipe their high tech telescopes eyepieces and sent Einstein's space-time physics research

papers solutions back to sender and said "NO" to the 100,000 space-time Physicists and Astrophysicists in their hideouts after they could not solve this motion puzzle by any said or published Physics for forty years including 109 years of Nobel Prize winner Physics and physicists and 400 years of astronomy. This motion puzzle is posted Smithsonian-NASA website SAO/NASA and type "apsidal motion of As Cam". From all close by binary stars systems astronomers picked up a few dozen sets of binary stars that can be a good test of general relativity theory and space-time confusion of physics and relativity theory failed everyone of them. Here is the solution to the most puzzling motion of all time solved by New real time physics solution or Newton's time dependent equation derived below.

The problem is:

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

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

Newton's solution is: $r (\theta) = [a (1-\varepsilon^2)/ (1+ \varepsilon \text{ cosine } \theta)]$

This Newton's solution is given wrong for 350 years

The motion of As Camelopardalis binary star system given by Nahhas' Equation

The correct solution is: $r (\theta, t) = [a (1-\varepsilon^2)/ (1+ \varepsilon \text{ cosine } \theta)]\, e^{[\lambda(r) + i\, \omega (r)] t}$

This rate of "apparent" axial rotation is given by this new equation

$W° (ob) = (-720x36526/T) \{[\sqrt{(1-\varepsilon^2)}]/ (1-\varepsilon)^2]\} [(v° + v^*)/c]^2$ degrees/100 years

W° (ob) = 15.0°/century; observed = 15.0° +/- 0.3°/ century; relativity = 44°/century

In general $v^* = 2v^*(cm) = \sum m v^*/\sum m$; $v° = v° (p) +/- v° (s)$

m = mass p = primary s = secondary

T = period; ε = eccentricity; v° = spin velocity effect; v*= orbital velocity effect

For As Camelopardis:

With v* + v°= 350.7803944km/s.

And v° = 70 km/s = the sum spin velocities of primary and secondary stars.

And v* = 275.7803944km/sec = v*(p) + v*(s) +σ; σ = standard deviation

Then W° = 15.0°/century as reported by Guinan/Maloney

If v* = 2v*(cm) + σ = 345.9176729km/sec

Where $v^* (cm) = \sum m v/\sum m$

The W° = 14.6° as reported by Khalullin

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 apsis.

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

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

$\mathbf{F} = d\,\mathbf{P}/d\,t = d^2\mathbf{S}/dt^2$ = Total force
$= m\,(d^2\mathbf{r}/dt^2) + 2(dm/d\,t)\,(d\,\mathbf{r}/d\,t) + (d^2m/dt^2)\,\mathbf{r}$
$= m\,\boldsymbol{\gamma} + 2m'\mathbf{v} + m''\,\mathbf{r}$; γ = acceleration; m'' = mass acceleration rate

<u>In polar coordinates system</u>
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
$\mathbf{F} = m\,\boldsymbol{\gamma} + 2m'\mathbf{v} + m''\,\mathbf{r}$
$\mathbf{F} = m\,[(r''-r\theta'^2)\,\mathbf{r}_{(1)} + (2r'\theta' + r\,\theta'')\,\boldsymbol{\theta}_{(1)}] + 2m'[r'\,\mathbf{r}_{(1)} + r\,\theta'\,\boldsymbol{\theta}_{(1)}] + (m''\,r)\,\mathbf{r}_{(1)}$
$= [d^2\,(m\,r)/dt^2 - (m\,r)\,\theta'^2]\,\mathbf{r}_{(1)} + (1/mr)\,[d\,(m^2r^2\theta')/d\,t]\,\boldsymbol{\theta}_{(1)}$
$= [-GmM/r^2]\,\mathbf{r}_{(1)}$ ------------------------------- Newton's Gravitational Law
Proof**:**
First $\mathbf{r} = r\,[\text{cosine}\,\theta\,\hat{\mathbf{i}} + \text{sine}\,\theta\,\hat{\mathbf{J}}] = r\,\mathbf{r}_{(1)}$
Define $\mathbf{r}_{(1)} = \text{cosine}\,\theta\,\hat{\mathbf{i}} + \text{sine}\,\theta\,\hat{\mathbf{J}}$
Define $\mathbf{v} = d\,\mathbf{r}/d\,t = r'\,\mathbf{r}_{(1)} + r\,d[\mathbf{r}_{(1)}]/d\,t$
$= r'\,\mathbf{r}_{(1)} + r\,\theta'[-\,\text{sine}\,\theta\,\hat{\mathbf{i}} + \text{cosine}\,\theta\hat{J}]$
$= r'\,\mathbf{r}_{(1)} + r\,\theta'\,\boldsymbol{\theta}_{(1)}$

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

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

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

With $d^2\,(m\,r)/dt^2 - (m\,r)\,\theta'^2 = -GmM/r^2$ Newton's Gravitational Equation (1)
And $d\,(m^2r^2\theta')/d\,t = 0$ Central force law (2)

<u>(2)</u>: $d\,(m^2r^2\theta')/d\,t = 0$
Then $m^2r^2\theta'$ = constant
$= H\,(0, 0)$
$= m^2\,(0, 0)\,h\,(0, 0)$; $h\,(0, 0) = r^2\,(0, 0)\,\theta'(0, 0)$
$= m^2\,(0, 0)\,r^2\,(0, 0)\,\theta'(0, 0)$; $h\,(\theta, 0) = [r^2\,(\theta, 0)]\,[\theta'(\theta, 0)]$
$= [m^2\,(\theta, 0)]\,h\,(\theta, 0)$; $h\,(\theta, 0) = [r^2\,(\theta, 0)]\,[\theta'(\theta, 0)]$
$= [m^2\,(\theta, 0)]\,[r^2\,(\theta, 0)]\,[\theta'(\theta, 0)]$
$= [m^2\,(\theta, t)]\,[r^2\,(\theta, t)]\,[\theta'\,(\theta, t)]$
$= [m^2(\theta, 0)\,m^2(0,t)][\,r^2(\theta,0)r^2(0,t)][\theta'(\theta, t)]$
$= [m^2(\theta, 0)\,m^2(0,t)][\,r^2(\theta,0)r^2(0,t)][\theta'(\theta, 0)\,\theta'\,(0, t)]$

With $m^2r^2\theta'$ = 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 $2 (m'/m) = 2[\lambda (m) + ì\, \omega (m)]$
And $2(r'/r) = 2[\lambda (r) + ì\, \omega (r)]$
And $\theta''/\theta' = -2\{\lambda (m) + \lambda (r) + ỉ\, [\omega (m) + \omega (r)]\}$

Then $(m'/m) = [\lambda (m) + ì\, \omega (m)]$
Or $d\, m/m\, d\, t = [\lambda (m) + ì\, \omega (m)]$
And $dm/m = [\lambda (m) + ì\, \omega (m)]\, d\, t$
Then $m = m (0)\, e^{[\lambda (m) + ì\, \omega (m)]\, t}$
$m = m (0)\, m (0, t); m (0, t)\, e^{[\lambda (m) + ì\, \omega (m)]\, t}$
With initial spatial condition that can be taken at t = 0 anywhere then $m (0) = m (\theta, 0)$
And $m = m (\theta, 0)\, m (0, t) = m (\theta, 0)\, e^{[\lambda (m) + ì\, \omega (m)]\, t}$
And $m (0, t) = e^{[\lambda (m) + ì\, \omega (m)]\, t}$
Similarly we can get
Also, $r = r (\theta, 0)\, r (0, t) = r (\theta, 0)\, e^{[\lambda (r) + ì\, \omega (r)]\, t}$
With $r (0, t) = e^{[\lambda (r) + ì\, \omega (r)]\, t}$
Then $\theta'(\theta, t) = \{H(0, 0)/[m^2(\theta,0)\, r(\theta,0)]\}e^{-2\{[\lambda(m) + \lambda(r)] + ì\, [\omega(m) + \omega(r)]\}t}$ -----I
And $\theta'(\theta, t) = \theta' (\theta, 0)]\, e^{-2\{[\lambda (m) + \lambda(r)] + ì\, [\omega (m) + \omega (r)]\}\, t}$ ------------------------I
And, $\theta'(\theta, t) = \theta' (\theta, 0)\, \theta' (0, t)$
And $\theta' (0, t) = e^{-2\{[\lambda (m) + \lambda (r)] + ì\, [\omega (m) + \omega(r)]\}\, t}$
Also $\theta'(\theta, 0) = H (0, 0)/ m^2 (\theta, 0)\, r^2 (\theta, 0)$
And $\theta'(0, 0) = \{H (0, 0)/ [m^2 (0, 0)\, r (0, 0)]\}$

<u>With (1)</u>: $d^2 (m\, r)/dt^2 - (m\, r)\, \theta'^2 = -GmM/r^2 = -Gm^3M/m^2r^2$
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 $d (m\, r)/d\, t = -u'/u^2 = - (1/u^2) (\theta')\, d\, u/d\, \theta = (- \theta'/u^2)\, d\, u/d\, \theta = -H\, d\, u/d\, \theta$
And $d^2 (m\, r)/dt^2 = -H\theta'd^2u/d\theta^2 = - Hu^2 [d^2u/d\theta^2]$

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

$t = 0; m^3 (0, 0) = 1$
$u = Gm^3 (\theta, 0)\, M/ H^2 + A \text{ cosine } \theta = Gm (\theta, 0)\, M (\theta, 0)/ h^2 (\theta, 0)$

And $m\, r = 1/u = 1/ [Gm (\theta, 0)\, M (\theta, 0)/ h (\theta, 0) + A \text{ cosine } \theta]$
$= [h^2/ Gm (\theta, 0)\, M (\theta, 0)]/ \{1 + [Ah^2/ Gm (\theta, 0)\, M (\theta, 0)]\, [\text{cosine } \theta]\}$
$= [h^2/Gm (\theta, 0)\, M (\theta, 0)]/ (1 + \varepsilon \text{ cosine } \theta)$

Then $m(\theta, 0)\, r(\theta, 0) = [a(1-\varepsilon^2)/(1+\varepsilon \text{ cosine } \theta)]\, m(\theta, 0)$
Dividing by $m(\theta, 0)$
Then $r(\theta, 0) = a(1-\varepsilon^2)/(1+\varepsilon \text{ cosine } \theta)$
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 $b = a\sqrt{(1-\varepsilon^2)}$ and focus length $c = \varepsilon a$
And $m r = m(\theta, t)\, r(\theta, t) = m(\theta, 0)\, m(0, t)\, r(\theta, 0)\, r(0, t)$
Then, $r(\theta, t) = [a(1-\varepsilon^2)/(1+\varepsilon \text{ cosine } \theta)]\, e^{[\lambda(r) + \grave{\imath}\, \omega(r)] t}$--------------------------- 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 $r(\theta, t) = r(\theta, 0)\, r(0, t) = [a(1-\varepsilon^2)/(1+\varepsilon \text{ cosine } \theta)]\, e^{\grave{\imath}\, \omega(r) t}$
And $m = m(\theta, 0)\, e^{+\grave{\imath}\, \omega(m) t} = m(\theta, 0)\, e^{\grave{\imath}\, \omega(m) t}$

We Have $\theta'(0, 0) = h(0, 0)/r^2(0, 0) = 2\pi ab/ Ta^2 (1-\varepsilon)^2$
$= 2\pi a^2 [\sqrt{(1-\varepsilon^2)}]/T a^2 (1-\varepsilon)^2$
$= 2\pi [\sqrt{(1-\varepsilon^2)}]/T (1-\varepsilon)^2$
Then $\theta'(0, t) = \{2\pi [\sqrt{(1-\varepsilon^2)}]/ T(1-\varepsilon)^2\}\, \text{Exp}\, \{-2[\omega(m) + \omega(r)] t$
$= \{2\pi [\sqrt{(1-\varepsilon^2)}]/ (1-\varepsilon)^2\}\, \{\text{cosine } 2[\omega(m) + \omega(r)] t - \grave{\imath} \sin 2[\omega(m) + \omega(r)] t\}$
$= \theta'(0, 0)\, \{1 - 2\sin^2 [\omega(m) + \omega(r)] t\}$
$- \grave{\imath}\, 2i\, \theta'(0, 0) \sin [\omega(m) + \omega(r)] t \text{ cosine } [\omega(m) + \omega(r)] t$

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

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

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

<u>If this apsidal motion is to be found as visual effects</u>, then

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

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

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

$W°(ob) = (-720x36526/Tdays) \{[\sqrt{(1-\varepsilon^2)}]/ (1-\varepsilon)^2\}$ x
$\sin^2 \{\text{Inverse tan } [v°/c + v^*/c]/ [1 - v° v^*/c^2]\}$ degrees/100 years

Approximations I

With $v° << c$ and $v^* << c$, then $v° v^* <<< c^2$ and $[1 - v° v^*/c^2] \approx 1$
Then $W°(ob) \approx (-720x36526/Tdays) \{[\sqrt{(1-\varepsilon^2)}]/ (1-\varepsilon)^2\}$ x $\sin^2$ Inverse tan $[v°/c + v^*/c]$ degrees/100 years

Approximations II
With $v° << c$ and $v^* << c$, then sine Inverse tan $[v°/c + v^*/c] \approx (v° + v^*)/c$
$W°(ob) = (-720x36526/Tdays) \{[\sqrt{(1-\varepsilon^2)}]/ (1-\varepsilon)^2\}$ x $[(v° + v^*)/c]^2$ degrees/100 years
This is the equation that gives the correct apsidal motion rates -----------------------III

The circumference of an ellipse: $2\pi a (1 - \varepsilon^2/4 + 3/16(\varepsilon^2)^2 - --.) \approx 2\pi a (1-\varepsilon^2/4)$; $R = a (1-\varepsilon^2/4)$
Where $v(m) = \sqrt{[GM^2/ (m + M) a (1-\varepsilon^2/4)]}$
And $v(M) = \sqrt{[Gm^2 / (m + M) a (1-\varepsilon^2/4)]}$
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.
As Camelopardis Spin - Orbit velocities Table:

Primary → Secondary ↓	v°(p) ↑ v* (p)↑	v° (p) ↑v* (p)↓	v° (p) ↓ v* (p) ↑	v° (p) ↓V* (p) ↓
v°(s) ↑ v* (s)↑	Spin=[↑,↑] [↑,↑]=orbit	[↑,↑][↓,↑]	[↓,↑][↑,↑]	[↓,↑][↓,↑]
Spin results	v°(p) + v°(s)	v°(p) + v°(s)	- v°(p) + v°(s)	-v°(p) + v°(s)
Orbit results	v*(p) + v*(s)	-v*(p) + v*(s)	v* (p) + v*(s)	-v* (p) + v* (s)
Examples	As Camelopardis			
v° (s) ↑v* (s)↓	[↑,↑][↑,↓]	[↑,↑][↓,↓]	[↓,↑][↑,↓]	[↓,↑][↓,↓]
Spin results	v°(p) + v°(s)	v°(p) + v°(s)	-v°(p) + v°(s)	-v°(p) + v°(s)
Orbit results	v*(p) - v*(s)	-v*(p) - v*(s)	v*(p) - v*(s)	-v* (p) - v* (s)
Examples				
v° (p) ↓ v*(s) ↑	[↑,↓][↑,↑]	[↑,↓][↓,↑]	[↓,↓][↑,↑]	[↓,↓][↓,↑]
Spin results	v°(p) - v°(s)	v°(p) - v°(s)	-v°(p) - v°(s)	-v°(p) - v°(s)
Orbit results	v*(p) + v*(s)	-v*(p) + v*(s)	v*(p) + v*(s)	-v* (p) + v* (s)
Examples				
v° (s) ↓V*(s) ↓	[↑,↓][↑,↓]	[↑,↓][↓,↓]	[↓,↓][↑,↓]	[↓,↓][↓,↓]
Spin results	v°(p) - v°(s)	v°(p) - v°(s)	-v°(p) - v°(s)	-v°(p) - v°(s)
Orbit results	v*(p) - v*(s)	-v*(p) - v*(s)	v*(p) - v*(s)	-v* (p) - v* (s)
Examples				As camelopardis

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

$G=6.673x10^{-11}$; $M=2x\ 10^{30}kg$; $m=.32x10^{24}kg$; $\varepsilon = 0.206$; T=88days
And c = 299792.458 km/sec; a = 58.2km/sec; $1-\varepsilon^2/4 = 0.989391$
With v° = 2meters/sec
And $v^* = \sqrt{[GM/a\ (1-\varepsilon^2/4)]} = 48.14$ km/sec
Calculations yields: $v = v^* + v° = 48.14$km/sec (mercury)
And $[\sqrt{(1-\varepsilon^2)}]\ (1-\varepsilon)^2 = 1.552$
$W''\ (ob) = (-720x36526x3600/T)\ \{[\sqrt{(1-\varepsilon^2)}]/\ (1-\varepsilon)^2\}\ (v/c)^2$
$W''\ (ob) = (-720x36526x3600/88)\ x\ (1.552)\ (48.14/299792)^2 = 43.0''$/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.

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

As Camelopard apsidal motion solution:

Data T= 3.431; $r_{(m)} = 0.1499$ $m = 3.3\ M_{(0)}$ $R_{(m)} = 2.57R_{(0)}$; $[v°_{(m)}, v°_{(M)}] = [40, 30]$
$\varepsilon = 0.1695$; $1-\varepsilon = 0.8305$; $r_{(M)} = 0.1111$; $M = 2.5\ M_{(0)}$; $R_{(M)} = 2.5R_{(0)}$; $m + M=5.8\ M_{(0)}$
$1 + \varepsilon = 1.1695$; $1-\varepsilon^2/4 = 0.9928$; $[\sqrt{(1-\varepsilon^2)}]/\ (1-\varepsilon)^2 = 1.43$

Calculations

$G = 6.673x\ 10^{-11}$; $M_{(0)} = 1.98892x10^{30}kg$; $R_{(0)} = 0.696x\ 10^9m$
Semi major axis is $a = [R_{(m)}/r_{(m)}] = (2.57/0.1499)\ (0.696x\ 10^9)\ m = 11.93275517x10^9m$
With $a\ (1-\varepsilon^2/4) = (2.57/0.1499)\ (0.696x\ 10^9m)\ (0.9988) = 11.8470x\ 10^9m$
And $a\ (1-\varepsilon) = (0.8305)\ (11.93275517x10^9m) = 9.91\ x\ 10^9\ m$
And $a\ (1+\varepsilon) = (1.1695)\ (11.93275517x10^9m) = 13.95535717\ x\ 10^9\ m$
$\sqrt{[GM^2/\ (m + M)\ a\ (1-\varepsilon)]} = \sqrt{[6.673x\ (2.5)^2x\ 1.98892x10^{30}\ /\ (5.8)\ 9.91\ x\ 10^9\ m]}$
= 120.466 km/sec
$\sqrt{[GM^2/\ (m + M)\ a\ (1+\varepsilon)]} = \sqrt{[6.673x\ (2.5)^2x\ 1.98892x10^{30}\ /\ (5.8)\ 13.955357x\ 10^9\ m]}$
= 103.05 km/sec

K (A) = 120.466 + 103.05 = 111.76 km/sec

$\sqrt{[Gm^2/\ (m + M)\ a\ (1-\varepsilon)]} = \sqrt{[6.673x\ (3.3)^2x\ 1.98892x10^{30}\ /\ (5.8)\ 9.91\ x\ 10^9\ m]}$
= 159 km/sec
$\sqrt{[Gm^2/\ (m + M)\ a\ (1-\varepsilon)]} = \sqrt{[6.673x\ (3.3)^2x\ 1.98892x10^{30}\ /\ (5.8)\ 9.91\ x\ 10^9\ m]}$
= 136 km/sec
K (B) = 159 + 136 = 147.5 km/sec
K (A) + K (B) = 259. 26 km/sec; K (A) + K (B) + 30 + 40 = 329.26 km/sec

With $v(m) = \sqrt{[GM^2/(m + M)\, a\, (1-\varepsilon^2/4)]} = 110.1786325$ km/ sec
And $v(M) = \sqrt{[Gm^2/(m + M)\, a\, (1-\varepsilon^2/4)]} = 145.435795$km/sec

Spin: $v° = v°(p) + v°(s) = 40$km/s + 30km/s = 70km/sec
Orbit: With $v^* = v^*(p) + v^*(s) = 110.1786325 + 145.435795$km/sec
$= 255.6144275$ km/sec

Then $v^* + v° = 255.6144275 + 70 = 325.56144275$km/sec
$W(ob) = (-720x36526/T) \times \{[\sqrt{(1-\varepsilon^2)}]/(1-\varepsilon)^2\}\ \{[v^* + v°]/c\}^2 = 12.91°/100$ years

Let us calculate $v^*(cm) = \sum m\, v/\sum m = 125.3756853$ km/sec
Then $2v^*(cm) = 250.7513706$ km/sec

Let us calculate $\sigma = \sqrt{\{\sum [v^*-v^*(cm)]^2/2\}}$
$= \sqrt{\{[(110.1786325-125.3756853)^2 + (145.435795-125.7356853)^2]/2\}}$
$\sigma = 25.1659669$

Spin: $v° = v°(p) + v°(s) = 40$km/s + 30km/s = 70km/sec

1- With $v^* = v(p) + v(s) + \sigma = 255.6144275 + 25.1659669 + 70 = 350{,}7803944$km/sec
$[\sqrt{(1-\varepsilon^2)}]/(1-\varepsilon)^2 = 1.43$; T = 3.431 days
$W°(cal) = (-720x36526/T) \times \{\sqrt{[(1-\varepsilon^2)]}\,(1-\varepsilon)^2\}\ \{[v^* + v°]/c\}^2 = 15.0°$/century
Dr Guinan: W°= 15°/century 1989

2- With $v^* = 2v(cm) + \sigma = 2\,[m\, v^*(p) + M\, v^*(p)]/(m + M)$
$+ \sqrt{\{\{[v^*(p)-v^*(cm)]^2 + [v^*(s)-v(cm)]^2\}/2\}}$
$= 275.9176729$km/sec
Then $v^* + v° = 275.9176729 + 70 = 345.9176729$km/sec
$W° = (-720x36526/T) \times \{[\sqrt{(1-\varepsilon^2)}]/(1-\varepsilon)^2\}\ \{[v^* + v°]/c\}^2 = 14.6°/100$ years

3- Khailullin: 1983 v (p) =110.4; v(s) = 145.8; $\sigma = 25.2685$
$2\sum m\, v/\sum m + \sigma + 70 = 346.0185$
W°= 14.6 °/century same as reported [same as published]
Conclusion

Universal mechanics: 15°/century; observed: 15°/century
Relativity theory: 44°/century

References:
Apsidal motion of As Cameloparids by Khailullin: 1983
Apsidal motion of As Camelopardis Edward Guinan and Frank Maloney: 1986
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