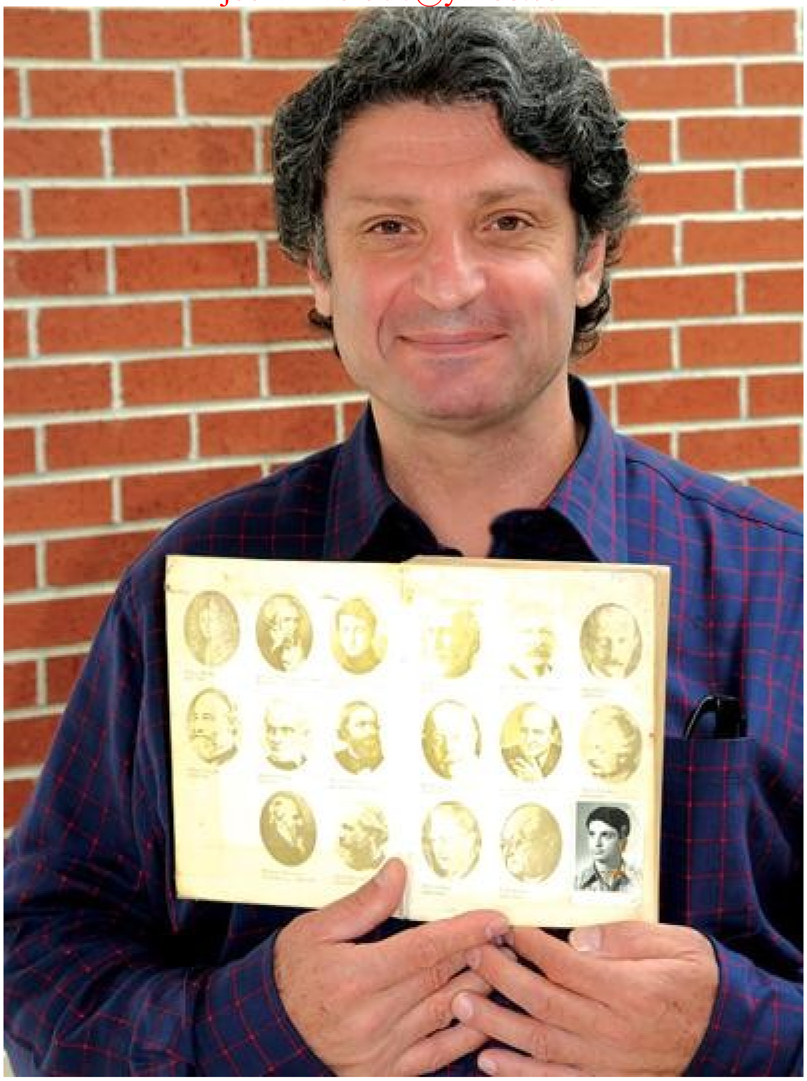
Relativity Failures nail # 4: **V541Cygni binary stars apsidal motion**

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

By Professor Joe Nahhas 1989
joenahhas1958@yahoo.com



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

That gave Apsidal rate better than anything said or published in all of physics of:

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

Abstract: This is the solution to the 30 years most studied and fought about 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 V541Cygni". 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 V541Cygni binary star system given by Nahhas' Equation

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

For 350 years Physicists Astronomers and Mathematicians missed Kepler's time dependent equation that changed Newton's equation into a time dependent Newton's equation and together these two equations combine classical mechanics and quantum mechanics into one mechanics explains "relativistic" effects as the difference between time dependent measurements and time independent measurements of moving objects and solved all two body systems motion posted puzzles that can not be solved by space-time physics or any said or published physics. From billions of stars there are few thousands of close by stars that astronomers looked at and documented their dimensions and motions and picked few dozens of the binary stars as a test of General relativity and General relativity failed every one of them. This one was picked many times and Dr Lacy of University of Arkansas decided that it is a good case against relativity theory and here is the solution given by this formula:

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

Where T = orbital period = 15.3379days; ε = orbital eccentricity = 0.479

With v^* (p) = primary orbital speed = 75.5883 km/s

And v^* (s) = secondary orbital speed = 75.5883 km/s;

And v° (p) = primary spin speed = 24km/sec; v° (s) = primary spin speed = 24km/sec;

And $v^* = v^* (p) + v^* (s)$; $v° = -v° (p) - v° (s)$

This binary star system has an axial rotation rate of [0.5°; 0.7°]/century and Newton's 0.65°/century and Einstein's space-timers came up with 0. 97°/ century

In general $v^* = 2 v^*(cm) = m v^*(p) + M v^* (s)/ m + m$

And $v° = +/- v° (p) +/- v° (s)$

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:

$\mathbf{P} = d\,\mathbf{S}/d\,t = m\,(d\,\mathbf{r}/d\,t) + (dm/d\,t)\,\mathbf{r}$ = 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

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
$\mathbf{F} = m\,\boldsymbol{\gamma} + 2m'\mathbf{v} + m''\,\mathbf{r}$
$\mathbf{F} = m\,[(r''-r\theta'^2)\,\mathbf{r}_{(1)} + (2r'\theta' + r\,\theta'')\,\boldsymbol{\theta}_{(1)}] + 2m'[r'\,\mathbf{r}_{(1)} + r\,\theta'\,\boldsymbol{\theta}_{(1)}] + (m''\,r)\,\mathbf{r}_{(1)}$
$= [d^2\,(m\,r)/dt^2 - (m\,r)\,\theta'^2]\,\mathbf{r}_{(1)} + (1/mr)\,[d\,(m^2r^2\theta')/d\,t]\,\boldsymbol{\theta}_{(1)}$
$= [-GmM/r^2]\,\mathbf{r}_{(1)}$ ------------------------------ 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 $d\,(m^2 r^2 \theta')/d\,t = 0$ Central force law (2)

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

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

$= H(0, 0)$

$= m^2(0, 0)\, h(0, 0);\ h(0, 0) = r^2(0, 0)\, \theta'(0, 0)$

$= m^2(0, 0)\, r^2(0, 0)\, \theta'(0, 0);\ h(\theta, 0) = [r^2(\theta, 0)]\, [\theta'(\theta, 0)]$

$= [m^2(\theta, 0)]\, h(\theta, 0);\ h(\theta, 0) = [r^2(\theta, 0)]\, [\theta'(\theta, 0)]$

$= [m^2(\theta, 0)]\, [r^2(\theta, 0)]\, [\theta'(\theta, 0)]$

$= [m^2(\theta, t)]\, [r^2(\theta, t)]\, [\theta'(\theta, t)]$

$= [m^2(\theta, 0)\, m^2(0,t)][\, r^2(\theta,0) r^2(0,t)][\theta'(\theta, t)]$

$= [m^2(\theta, 0)\, m^2(0,t)][\, r^2(\theta,0) r^2(0,t)][\theta'(\theta, 0)\, \theta'(0, t)]$

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

Differentiate with respect to time

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

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

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

<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 $d(m r)/dt = -u'/u^2 = -(1/u^2)(\theta') du/d\theta = (-\theta'/u^2) du/d\theta = -H du/d\theta$
And $d^2(m r)/dt^2 = -H\theta' d^2u/d\theta^2 = -Hu^2 [d^2u/d\theta^2]$

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

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

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, $r(\theta, t) = [a(1-\varepsilon^2)/(1+\varepsilon \text{ cosine } \theta)] e^{[\lambda(r) + i\omega(r)] t}$--------------------------- 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 $r(\theta, t) = r(\theta, 0) r(0, t) = [a(1-\varepsilon^2)/(1+\varepsilon \text{ cosine } \theta)] e^{i\omega(r) t}$
And $m = m(\theta, 0) e^{+i\omega(m) t} = m(\theta, 0) e^{i\omega(m) t}$
We Have $\theta'(0, 0) = h(0, 0)/r^2(0, 0) = 2\pi ab/Ta^2(1-\varepsilon)^2$
$= 2\pi a^2[\sqrt{(1-\varepsilon^2)}]/T a^2(1-\varepsilon)^2$
$= 2\pi[\sqrt{(1-\varepsilon^2)}]/T(1-\varepsilon)^2$
Then $\theta'(0, t) = \{2\pi[\sqrt{(1-\varepsilon^2)}]/T(1-\varepsilon)^2\} \text{ Exp } \{-2[\omega(m) + \omega(r)] t$
$= \{2\pi[\sqrt{(1-\varepsilon^2)}]/(1-\varepsilon)^2\} \{\text{cosine } 2[\omega(m) + \omega(r)] t - i \sin 2[\omega(m) + \omega(r)] t\}$
$= \theta'(0, 0) \{1 - 2\sin^2[\omega(m) + \omega(r)] t\}$
$- 2i \theta'(0, 0) \sin[\omega(m) + \omega(r)] t \text{ cosine } [\omega(m) + \omega(r)] t$
Then $\theta'(0, t) = \theta'(0, 0) \{1 - 2\text{sine}^2[\omega(m) t + \omega(r) t]\}$
$- 2i \theta'(0, 0) \sin[\omega(m) + \omega(r)] t \text{ cosine } [\omega(m) + \omega(r)] t$
$\Delta \theta'(0, t) = \text{Real } \Delta \theta'(0, t) + \text{Imaginary } \Delta \theta(0, t)$
$\text{Real } \Delta \theta(0, t) = \theta'(0, 0) \{1 - 2 \text{ sine}^2[\omega(m) t \omega(r) t]\}$
Let $W(\text{cal}) = \Delta \theta'(0, t)(\text{observed}) = \text{Real } \Delta \theta(0, t) - \theta'(0, 0)$
$= -2\theta'(0, 0) \text{ sine}^2[\omega(m) t + \omega(r) t]$
$= -2[2\pi[\sqrt{(1-\varepsilon^2)}]/T(1-\varepsilon)^2] \text{ sine}^2[\omega(m) t + \omega(r) t]$
And $W(\text{cal}) = -4\pi[\sqrt{(1-\varepsilon^2)}]/T(1-\varepsilon)^2] \text{ sine}^2[\omega(m) t + \omega(r) t]$
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
And $\omega(m) T^\circ = \text{Inverse } \tan v^\circ/c$; $\omega(r) T^* = \text{Inverse } \tan v^*/c$
$W(\text{ob}) = -4\pi[\sqrt{(1-\varepsilon^2)}]/T(1-\varepsilon)^2] \text{ sine}^2[\text{Inverse } \tan v^\circ/c + \text{Inverse } \tan v^*/c]$ 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

$\text{sine}^2\ \{\text{Inverse tan}\ [v°/c + v^*/c]/\ [1 - v°\ v^*/c^2]\}$ degrees/100 years

Approximations I

With $v° \ll c$ and $v^* \ll c$, then $v°\ v^* \lll c^2$ and $[1 - v°\ v^*/c^2] \approx 1$

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

Approximations II

With $v° \ll c$ and $v^* \ll c$, 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.

V541Cygni 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				
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				

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.

Venus Advance of perihelion solution:

$W''\ (ob) = (-720x36526x3600/T)\ \{[\sqrt{(1-\varepsilon^2)}]/\ (1-\varepsilon)^2\}\ [(v°+ v^*)/c]^2$ seconds/100 years

Data: T=244.7days $v°= v°_{(p)}] = 6.52$km/sec; $\varepsilon = 0.0.0068$; $v^*(p) = 35.12$
Calculations

$1-\varepsilon = 0.0068$; $(1-\varepsilon^2/4) = 0.99993$; $[\sqrt{(1-\varepsilon^2)}]\ /\ (1-\varepsilon)^2 = 1.00761$
$G=6.673x10^{-11}$; $M_{(0)} = 1.98892x19^{30}kg$; $R = 108.2x10^{9}m$

$V^*\ (p) = \sqrt{[GM^2/\ (m + M)\ a\ (1-\varepsilon^2/4)]} = 41.64$ km/sec
Advance of perihelion of Venus motion is given by this formula:

$W''\ (ob) = (-720x36526x3600/T)\ \{[\sqrt{(1-\varepsilon^2)}]/\ (1-\varepsilon)^2]\}\ [(v° + v^*)/c]^2$ seconds/100 years

$W''\ (ob) = (-720x36526x3600/T)\ \{[\sqrt{(1-\varepsilon^2)}]/\ (1-\varepsilon)^2\}\ sine^2$ [Inverse tan 41.64/300,000]
$= (-720x36526x3600/224.7)\ (1.00762)\ (41.64/300,000)^2$

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

I am going to show how both answers can be obtained.

3- **V541Solution: Apsidal motion catalogue**

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

T = 15.3379days $r_{(m)}=0.0440$ $m = 2.4M_{(0)}$ $R_{(m)}=1.88R_{(0)}$ $[v°_{(m)},v°_{(M)}]=[24\pm2,24\pm2]$
And $\varepsilon = 0.479$ $r_{(M)} =0.0425$ $M=2.4\ M_{(0)}$ $R_{(M)} =1.79R_{(0)}$

With $1-\varepsilon = 0.521$ $1-\varepsilon^2/4=0.94263975$; $[\sqrt{(1-\varepsilon^2)}]/(1-\varepsilon)^2 = 3.2339$
And $a = [R_{(m)}/r_{(m)}] R_{(0)} = (1.88/0.0440)0.696x10^9m = 29.73818182x10^9m$
Then $a(1-\varepsilon^2/4) = 28.03x10^9m$
And $v(m) = \sqrt{[GM^2/(m + M) a (1-\varepsilon^2/4)]} = 75.5883km/sec$; $v°(m) = 24$
And $v(M) = \sqrt{[Gm^2/a (m + M) (1-\varepsilon^2/4)]} = 75.883km/sec$; $v°(M) = 24$
With $v°=24 + 24= 44km/sec$
And $v^* = 151.1766km/sec$
With $v^* + v°= 151.1766 - 48 = 103.1766km/sec$
$W°(ob) = (-720x36526/T) \{[\sqrt{(1-\varepsilon^2)}]/(1-\varepsilon)^2]\} \{[v^* + v°]/c\}^2$
$W°(ob) = (- 720 x 365226/15.3379) (3.2339) (103.1766/300,000)^2$
$W°(ob) = 0.65°$
Notice: $[v°_{(m)}, v°_{(M)}] = [24 \pm 2, 24 \pm 2]$
If $v°(m) = v°(M) = 24 + 2 = 26$
Then $v^* + v°= 151.1766 - 52 = 99.1766km/sec$
And $W°(ob) = (- 720 x 365226/15.3379) (3.2339) (99.1766/300,000)^2$
W° (ob) = 0.60°/century
Observed is W°= 0.60° +/ -0.1/century Lacy = [0.5°; 0.7°]

Relativity: W° = 0.97°/century

1- Apsidal motion of V541Cgyni Lacy 1989
joenahhas1958@yahoo.com