WATCHING THE HOURGLASS OF SPACE-TIME.

When we finally got around to plotting spacetime of planetary motion, Mercury always seemed to shoot past our predicted point of arrival, like a train rolling past its station pick-up boundary, a limit of space and time. The orbit curve of Mercury from start to finish, overshoots its finish line in curved space adding an additional length of space to the orbit period. Finish lines, boundaries, pick up points, these terms are curved space mathematical limits.

It's the additional unit of (space)/orbit-period that screws up the accounting. Both planet *and* orbit are revolving about our sun.

ALΣXANDΣR; CEO SAND BOX GEOMETRY LLC

Presentation 2018

What's going on with Mercury??

April 10

2026

Using motive energy curves of period limits, perihelion and aphelion, I will construct a mechanical energy comparative for Mercury, Venus, Earth, Mars, and Jupiter. I will transpose motive energy curves of perihelion and aphelion, captured by solar accretion to solar spin axis(N). At the spin axis(N) comparative I find motive energy of perihelion and aphelion carry *two* active energy curves with them when transitioned from accretion to spin axis(N). One I believe is (r), the displacement radius(r) of Sir Isaac Newton. The other is $(f(r))$, the work of his changing accelerations curves making the $(r, f(r))$ of orbit motion. I will demonstrate Mercury is not as confusing an occurrence of scheduled limits of space and time as *our* square-space math predicts. Mercury is fine, has always been the fleet footed messenger of God. Dancing His Grand Design as do we all. Always has, always will and will always be running a step ahead of our ecliptic collective.

I start with basic CSDA needed to construct: SpaceCurve(1), SpaceCurve(2), OrbitCurve(1).

35 pages; 4782words:

PART(1)

A PLACE TO START

Extreme limits composing the orbit period of Mercury consume an immense volume of space. from perihelion to aphelion and aphelion back to perihelion is a 24,000,000km thick doughnut of space revolving about our Sun, a well done high energy doughnut.

I will be using CSDA parametrics to construct perihelion and aphelion orbit limits. The average energy diameter working the CSDA central force domain is Sir Isaac Newton's planet displacement radius(r). Since M_1 is our Sun and system SpaceCurve(1), SpaceCurve(2) contains OrbitCurve(1) our Mercury appearing on our curved space domain as integer displacement(2) with respect to **F**.

An average energy diameter of my CSDA:

$$\left(\frac{high\ energy\ displacement\ perihelion + low\ energy\ displacement\ aphelion}{2} = average\ energy\ diameter\right)$$

Let this term, (57,950,000), an average energy diameter, become Sir Isaac Newton's planetary displacement radius integer(2) on my CentralForce Accretion Domain of Mercury.

planet	average	peri	aph
Mer	57,950,000	46040000	69860000

How to construct mechanical energy curves using a basic CSDA.

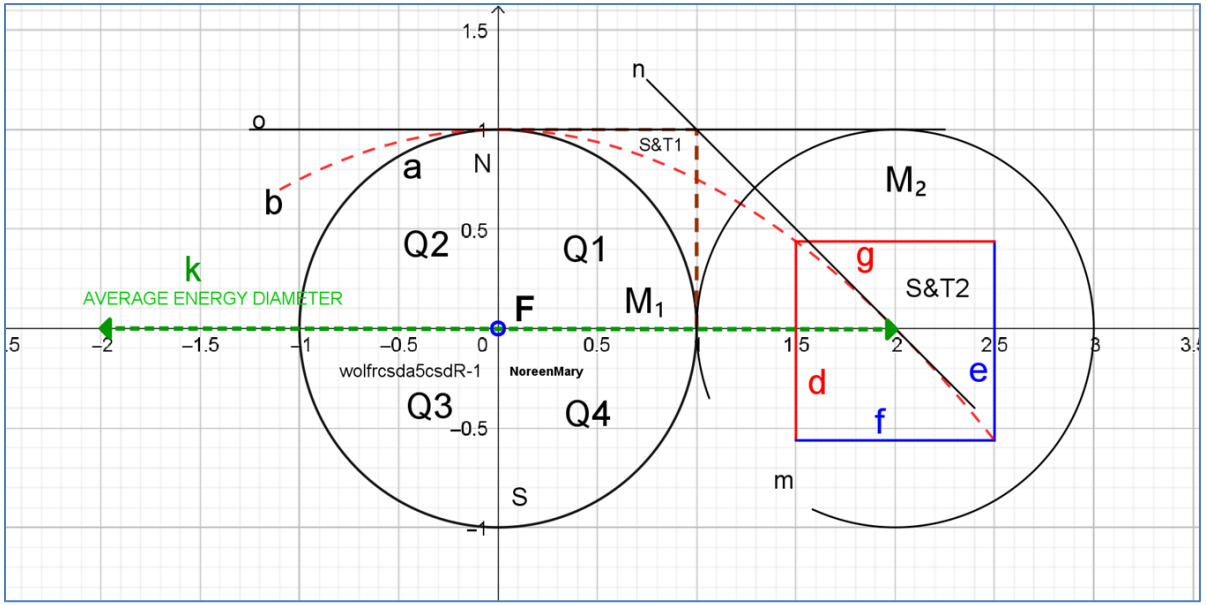


Figure 1: A basic CSDA. We have two unity curves on system domain. One for M_1 potential, one for M_2 motion. Curve(a) is discovery curve for SpaceCurve(2). Curve(b) is the period time curve for M_2 and definition curve SC(2)&OC(1) for discovery(a).

Average energy diameter of (M_2), $(curve(k))$, exists on the central force domain between (± 2); also serves as **CSDA** principal chord latus rectum sourced from period time curve(b). This serves Sir Isaac Newton's average energy diameter displacement(r) of any M_2 an integer(± 2) happening on domain of **F.**

I will be marking orbit limits perihelion and aphelion using displacement sides of period spacetime square$(S\&T2)$, curve(d) perihelion, and curve(e) aphelion. It is across orbit limits I construct motive energy curves.

I use the first and fourth quadrants of a Cartesian Coordinate system for my constructions. The average energy diameter event of (M_2) orbit period happens $@energy\ tangent(n), slope(m) = (\pm 1)$ on period time curve(b) in $(S\&T2)$. I use Quadrant (1&4) because our planet group approach perihelion in a south to north direction on the orbit period curve(b).

I use two colors in my constructions. Red for high energy parameters, blue for low energy happenings.

Since energy exchanged between curve(a) and curve(m) determines orbit motion, we need two equal curves to *initialize* and quantify available energy to share; when added together zero balance the exchange between potential and motion. Somewhere on the period time curve(b), there will be a motive curve congruent with potential less the content. Enter the average orbit diameter, reference level of gravity field orbit energy curves. It is here, and only here, on the latus rectum average diameter of an orbit can *two* unity curves co-exist. One for motion, one for potential

UNITY CURVES AND THE CURVED SPACE DIRECTRIX OF A CSDA

Three vectors are required for a sustainable stable orbit : momentum, acceleration, and torsion. These three vectors can be rendered with a plane geometry space-time square:

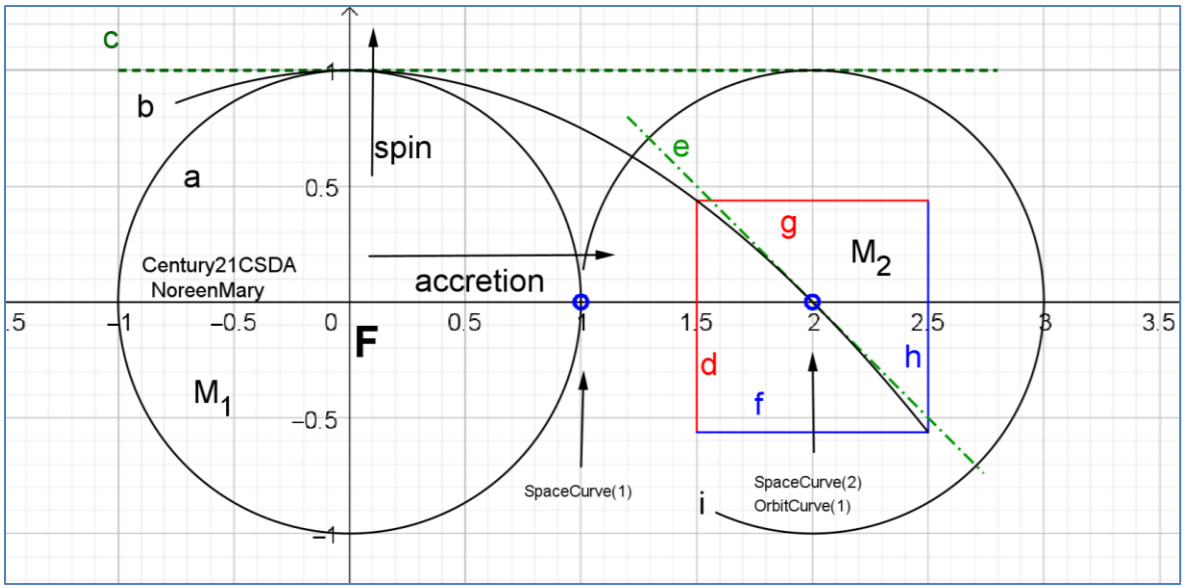


Figure 2: Basic CSDA M_2 spacetime square(d, g, h, f) with accretion space as domain orbit limits. Curve(d) is perihelion and curve(h) aphelion. Curve(f) and curve(g) are range as energy needed to advance period time between orbit limits. The M_2 unity curve is captured by potential curve(a) and system curved space directrix(c).

MOMENTUM: Sir Isaac Newton's changing accelerations moving on period curve(b), is into the paper and around the spin axis of M.

ACCELERATIONS: Galileo's uniform surface acceleration of M_1 potential is along the radius vector from central force **F** following orbit motion on period curve(b). The vector follows energy tangent curve(e) $(m = \pm 1)$ as a unity curve event happening @ domain $SC(2)$ @ coordinate $(2,0)$.

TORSION: Energy tangent curve(e) defines curved space motive energy progress. The $(r, f(r))$ happenings moving M_2 on the period time curve(b). Changing $(r, f(r))$ provides torsion, the change of orbit curvature, from tight and fast escape attempt by perihelion to decelerating recapture by surface accelerations of our star. Pendulamatic orbit motion of M_2 swinging between perihelion and aphelion, enjoying captured stability provided by Galileo's M_1 surface acceleration causality changing orbit velocity.

There is a rule (theorem?) For an orbit to remain stable. (M_2) motive energy curves, such is curve(i), must maintain contact with the System CurvedSpaceDirectrix as Range(time) and M_1 Potential as Domain(space).

PART(2) MECHANICAL ENERGY AND ORBITS

Orbit data for Mercury; SpaceCurve(2), OrbitCurve(1).

central relative position	square space	curved space
05 / 24 / CRC83, 64		
perihelion	46 040 000	1.58896
aphelion	69 860 000	2.41104
average	57 950 000	2
ASI	28 954 613	1
average v		
f (π)		0.368802
f (α)		-0.453278
focal radius (π)		1.6312
focal radius (α)		2.45328

Figure 3: Center column is kilometer space, right column is CSDA CurvedSpace units.

So lets us take a whirl using 2026 SBG thinking. I will begin with a DATA SHEET concerning orbit parametrics of the planet Mercury: CRC Handbook of Chemistry and Physics, 1983.

Explanation for CSDA mechanical energy happenings as curved space and square space can be found at my Not so Plain Geometry Blog @ sandboxgeometry.info Archived.

A much more deeper examination of mercury will now be conducted. In this examination I move motive energy curves manufactured on the central force domain (AKA accretion) to the spin axis(N).

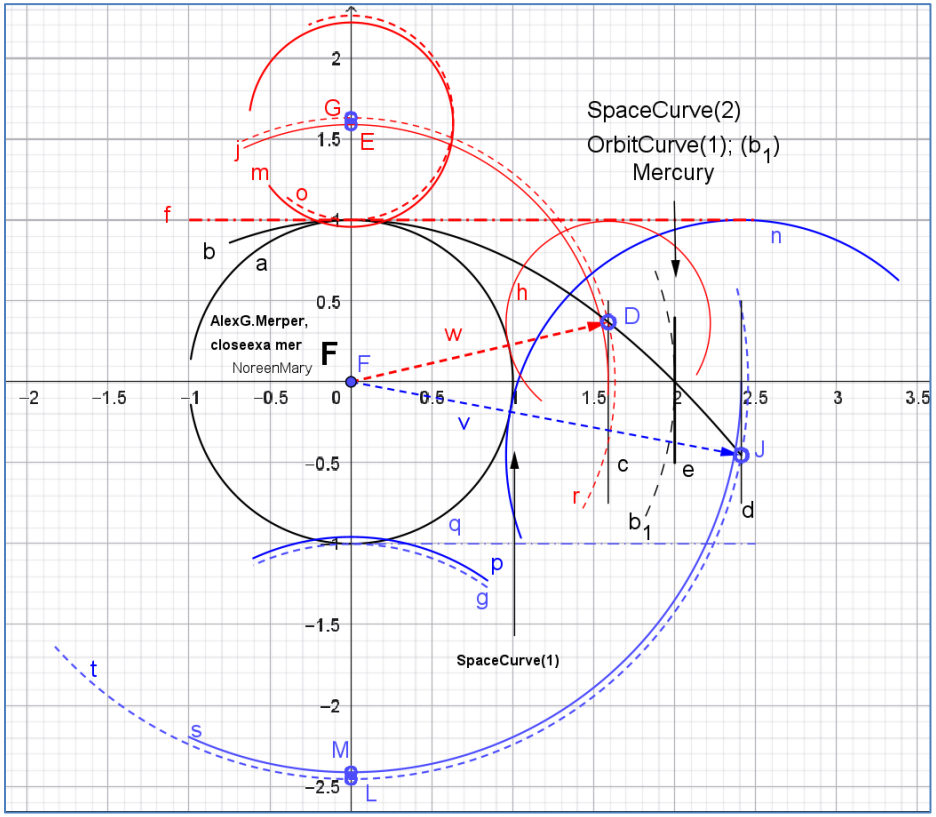


Figure 4: I have two period limiting curves of Mercury constructed. Orbit period curve(j) is perihelion@domain limit(c). Orbit period curve aphelion(s)@domain limit(d). I've constructed motive energy curve(h) for perihelion and motive energy curve(n) for aphelion. Each motive curve present *two* analytic radii I transfer to spin(N). 1. Dashed curve(o) is radius vector(w) $(r, f(r))$ of perihelion @point(D) on period curve(b). 2.Curve(m) is motive energy curve(h). 3.Curve(p) is aphelion motive energy curve(n) domain limit(d) transfer to to spin. 4. And focal vector(v) is $(r, f(r))$ acting@point(J) on period curve(b). The consumption by potential of domain motive energy, Curve(p) *and* curve(m) will be discussed in my conclusion.

I am using two colors. Red for orbit limit perihelion. Blue for orbit limit aphelion. Solid lines are Sir Isaac Newton's domain limit$(c\&d)$, the physical orbit curve(j) for perihelion and curve(s) for aphelion. And the average energy diameter(e). The hash lines are $(r, f(r))$ radius vector$(w\&v)$ orbit energy happenings on (M_2) period time curve(b). Curves$(j\&r)$ happening at period event(D) by $\underset{(W)}{\longrightarrow}$ and event(J) curves $(t\&s)$ by $\underset{(V).}{\longrightarrow}$

Translation will transfer motive energy (curve(h) and position vetor(w) energy curve(r), to spin axis$(North)$ becoming curve$(h \to m)$ and curve$(r \to o)$. Subtract M_1 unity curve mass volume potential from (w) for transfer parameters.

Only one energy curve can serve perihelion limit(c) required contact with the curved space directrix(f) and potential(M_1). That is curve(h). Its radius is: $(focal\ magnitude(w) - potential(1unit))$. Perihelion motive energy curve(h) carries two transfer radii. One is Sir Isaac Newton's domain(r); perihelion limit(c) the other is orbit energy $(f(r))$ provided by radius vector(w) following $(r, f(r))$ period motion @(D) on curve(b). Curve(m) at spin uses domain limit (c) to produce perihelion (center(E) and curve(o) at spin has focal radius(W) magnitude $(r, f(r))$, center(G).

Curve(o) with center(G) clings to the CurvedSpaceDirectrixN(f). Limit Perihelion motive energy curve(m) with center(E) is being swallowed by potential of (M_1). Curve(o) is dancing on the Curved Space Directrix, free in S&T2 space of Sir Isaac Newton and just above the surface acceleration curve of Galileo's S&T(1). M_2 motive energy momentum keeps the planet in free orbit motion avoiding collapse into dominant solar potential of our sun.

mercury and spacetime: OrbitCurve(1), SpaceCurve(2) period motion. ALΣXANDΣR

Name	Description	Caption
Curve a	Curve(cos(t), sin(t), t, -3, 3)	DiscoveryCurve for SpaceCurve(2), OrbitCurve(1).
Curve c	Curve(1.59, t, t, -0.75, 0.5)	Abscissa ID for domain limit radius perihelion. $1.588 units$
Curve f	Curve(t, 1, t, -0.5, 2.5)	CurvedSpace directrix(N)
Curve j	Curve(1.59cos(t), 1.59sin(t), t, -0.05, 2)	Domain OrbitCurve Perihelion with respect to **F.** $1.588 units$
Point D		PositionVector determination of event perihelion $\left(r, f(r)\right)$ on period time curve(b).
Point E		Center domain limit perihelion energy curve(h) transfer to spin; curve(m). $(1.588 units)$
Point G		Center $\left(r, f(r)\right)$ motive enrgy perihelion position vector(w) transfer to spinN. $1.631 unit$
Curve h	Curve(0.63 cos(t) + 1.59, 0.63 sin(t) + 0.37, t, -cos(45), 4)	Motive energy curve of limit perihelion. $(w - 1 = radius\ curve(h))$
Curve n	Curve(1.45cos(t) + 2.41, 1.45sin(t) - 0.45, t, -cos(10), 3.5)	Motive energy curve of limit aphelion. $(v - 1 = radius\ curve(n))$

Curve m	Curve(0.63cos(t), 0.63sin(t) + 1.59, t, -2.5, 3)	Domain Motive enrgy curve(h) transfer to N spin; curve(h) to curve(m)
Curve o	Curve(0.63cos(t), 0.63sin(t) + 1.63, t, -2, 2)	Motive energy $(r, f(r))$ radius part of position vector(w) transfer to spin; curve(h) to curve(o)
Vector v	Vector(H, I)	Position vector aphelion determination of $(r, f(r))$ limit aphelion on period curve(b).
Vector w	Vector(H, D)	Position vecto perihelion determination of $(r, f(r))$ limit perihelion on period curve.
Point J		Position vector determination of aphelion $(r, f(r))$ on period time curve(b).
Curve p Motive energy transfer(S)	Curve(1.45cos(t), 1.45sin(t) - 2.45, t, -cos(60), 2)	aphelion radius on domain transfer to spinS. Radius $2.41104 units$. curve(n) to curve(p).
Curve g Motive energy transfer(S)	Curve(1.45cos(t), 1.45sin(t) - 2.41, t, -cos(60), 2)	Position vector(v) $(r, f(r))$ creating motive energy aphelion curve(n), curve(n) transfer to spin. $(r = 2.453626 unit)$ curve(n) to curve(g)
Point F		Central Force of system.
Curve q	Curve(t, -1, t, 0, 2.5)	CurvedSpace Directrix S

Point L		Position vector(v) $(r, f(r))$ transfer to spin(S). radius curve(t) (2.45328) to spin(S)
Point M		Aphelion orbit limit on domain of **F** transfer to spin. Radius curve(s) 2.41104 to spin(S)
Curve r	Curve(1.63cos(t), 1.63sin(t), t, -0.5, 2)	Perihelion position vector(w) $(r, f(r))$ energy orbit limit perihelion.
Curve t	Curve(2.45sin(t), 2.45cos(t), t, -4.95, -2.3)	Aphelion position vector(v) $(r, f(r))$ energy orbit limit aphelion.
Curve b	Curve(t, t² / -4 + 1, t, -0.75, 2.41)	Definition curve SpaceCurve(2), period curve OrbitCurve(1)
Curve($b1$)	Curve(2cos(t), 2sin(t), t, -0.05, 0.35)	Average orbit diameter/energy; 2units space.
Curve(c_1)	Curve(1.4532cos(t), 1.4532sin(t) + 2.41104, t, -1.5, 2)	Motive energy curve aphelion , domain displacement 2.41104
Curve($d1$)	Curve(1.4532cos(t), 1.4532sin(t) + 2.45328, t, -cos(60), 4.5)	Motive energy curve $(r, f(r))$ focal radius(v) transfer to spin(N). curve(n) to curve(d_1).
Curve s	Curve(2.41cos(t), 2.41sin(t), t, -2, 0)	Aphelion orbit curve limit(d) on domain of **F**.
Curve e	Curve(2, t, t, -0.5, 0.4)	Average energy displacement(2) of Sir Isaac Newton
Curve d	Curve(2.41, t, t, -0.75, 0.5)	Abscissa ID aphelion orbit limit on central force domain.

Created with GeoGebra

Quite a confusing construction.

1. The first participant we need identify is SpaceCurve(1), M_1 constant surface acceleration. Galileo's first second space-time tile used by him to explore properties of being glued to the surface of the Earth. Let Galileo's 1st second space-time tile be (M_1) surface acceleration potential depicted by curve(a) CSDA system DiscoveryCurve.

2. Next we visit changing accelerations of M_2 period motion explored by Sir Isaac Newton. This will provide us with period time curve(b); my DiscoveryCurve(a) owns definition curve(b), defines place in space for SpaceCurve(#) inquiry. For Mercury, such identity will be $(SpaceCurve(2))$, $(OrbitCurve(1))$.

potential and acceleration

3. Galileo's uniform central force acceleration is surface acceleration curve of M_1. Curve(a) is SpaceCurve(1) *and* M_1 potential. The latus rectum produced by period curve(b) is average energy diameter of M_2. I use the positive half of the latus rectum on the domain numbered field. Integer(2), SpaceCurve(2), OrbitCurve(1) is our Mercury.

4. We next construct the period limits space and energy on the +space domain numberfield and use $\big(r, f(r)\big)$ to construct S&T spacetime square. The latus rectum of curve(b) is *always* the average energy diameter of M_2. Every M_2.

5. Diameter for Mercury OrbitCurve(1) will be curve(j). Domain integer(e) is the average energy diameter orbit M_2. Orbit curve perihelion will be curve(j) and orbit curve aphelion will be curve(s). These curves have color. Red for high energy perihelion and blue for low energy aphelion. Solid line curves$(j\&s)$ represent orbit M_2 motion. Curves$(w\&v)$ represent motive energy focal radii of (M_2) working period curve points$(J\&D)$. Points$(J\&D)$ are the $(f(r))$ of $\big(r, f(r)\big)$ producing orbit curves$(r\&t)$.

Sir Isaac Newton's radii; $(curves(j\&s))$ comprise the space doughnut. The inner circumference perihelion orbit radius curve(j) to the outer circumference Aphelion orbit radius curve(s) is the remote part of the doughnut and perihelion curve(j) is up close and personal part of orbit.

The next string of construction reduce confusion by spin(N) activity only.

PART(3)

MECHANICAL ENERGY CURVES MERCURY

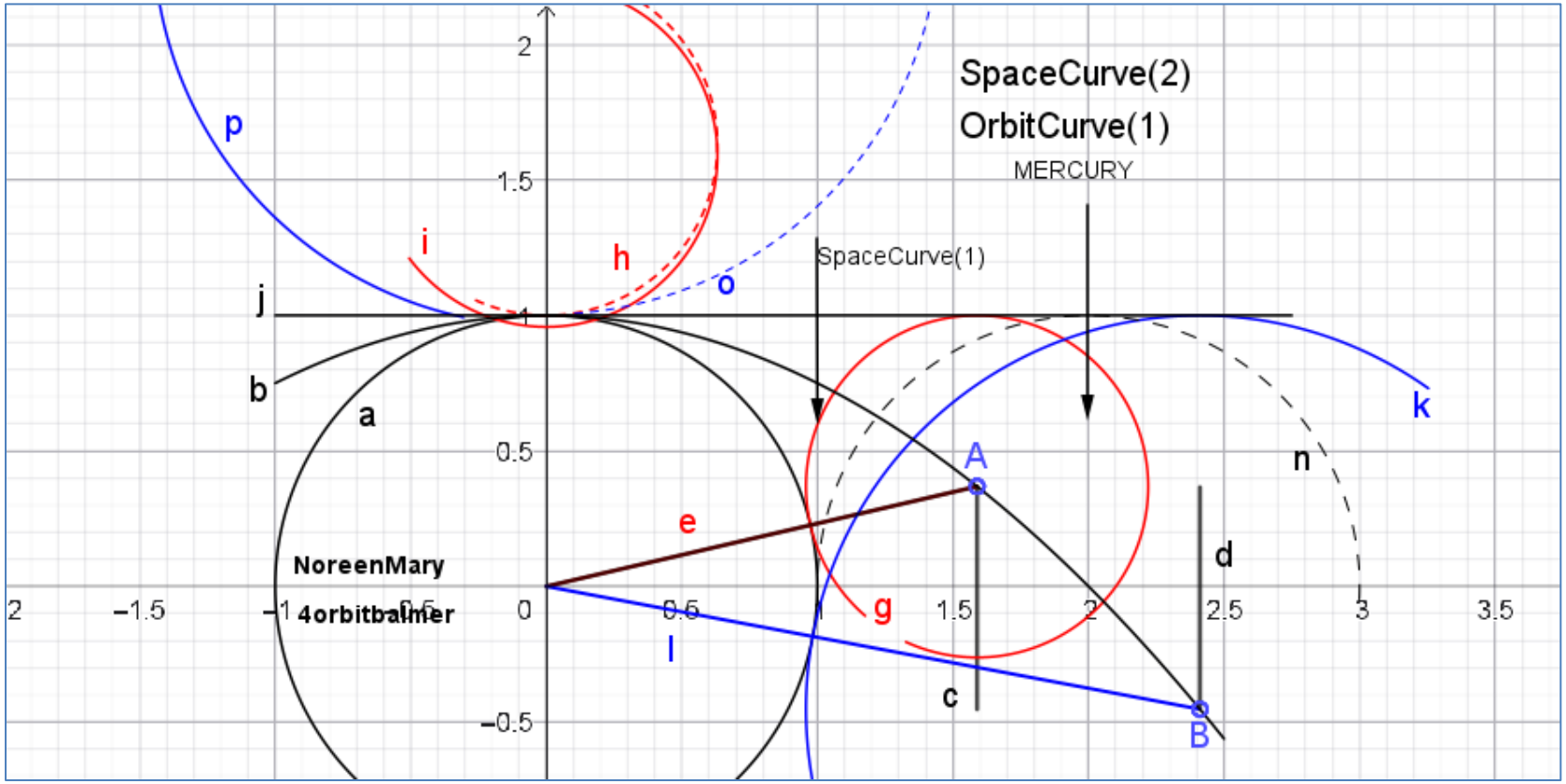
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MERCURY

step #1 compose data field. ASI is an acronym for Acceleration Sphere of Influence, a means to define the meter of g-field potential.

central relative position	square space	curved space
05 / 24 / CRC83, 64		
perihelion	46 040 000	1.58896
aphelion	69 860 000	2.41104
average	57 950 000	2
ASI	28 954 613	1
average v		
f (π)		0.368802
f (α)		-0.453278
focal radius (π)		1.6312
focal radius (α)		2.45328

MERCURY: SPACECURVE(2); ORBITCURVE(1)



MERCURY: SPACECURVE(2); ORBITCURVE(1)

Name	Description	Caption
Curve a	Curve(cos(t), sin(t), t, -3.5, 3.5)	Discovery curve(a), for SpaceCurve(2).
Curve c	Curve(1.59, t, t, -0.45, 0.37)	Abscissa ID perihelion.
Curve d	Curve(2.41, t, t, -0.45, 0.37)	Abscissa ID, aphelion
Curve e	Curve(t, 0.37 + 0.23 (-1.59 + t), t, 0, 1.59)	Perihelion position vector acting on period curve(b).
Point A		$(r, f(r))$ limit perihelion energy on period time curve(b).
Curve g	Curve(0.63cos(t) + 1.59, 0.63sin(t) + 0.37, t, -2, 4)	Motive energy curve, sir Isaac Newton's domain $(radius^2)^{-1}$ perihelion .
Curve h	Curve(0.63 cos(t), 0.63 sin(t) + 1.63, t, -2, 2)	Motive curve(g) $(r, f(r))$ energy position vector(e) on period curve transfer to spinN. Curve(g) to curve(h).
Curve i	Curve(0.63cos(t), 0.63sin(t) + 1.59, t, -2.5, 2)	Motive energy curve(g) transfer to spinN. Curve(g) to curve(i)
Curve k	Curve(1.45cos(t) + 2.41, 1.45sin(t) - 0.45, t, -cos(60), 3.5)	Motive energy curve aphelion. Centered on period curve
Curve l	Curve(t, -0.45 - 0.19 (-2.41 + t), t, 0, 2.41)	Aphelion position vector(l) $(r, f(r))$ acting on period curve(b).

Point B		$(r, f(r))$ limit aphelion energy on period time curve(b).
Curve b	Curve(t, t² / -4 + 1, t, -1, 2.5)	Definition discovery(a). Orbit $(SC - 1)$ periodtime curve.
Curve n	Curve(cos(t) + 2, sin(t), t, -0.05, 3.25)	Unity curve
Curve o	Curve(1.45cos(t), 1.45sin(t) + 2.45, t, -1.5, 2)	aphelion position vector(l) $(r, f(r))$ transferred to spinN. Curve(k) to curve(o).
Curve p	Curve(1.45cos(t), 1.45sin(t) + 2.41, t, -cos(90°), 4.5)	Domain radius aphelion limit(d) transfer to spinN. Curve(k) to curve(p)
Curve j	Curve(t, 1, t, -1, 2.75)	Curved space directrix north.

Created with GeoGebra

MECHANICAL ENERGY CURVES VENUS

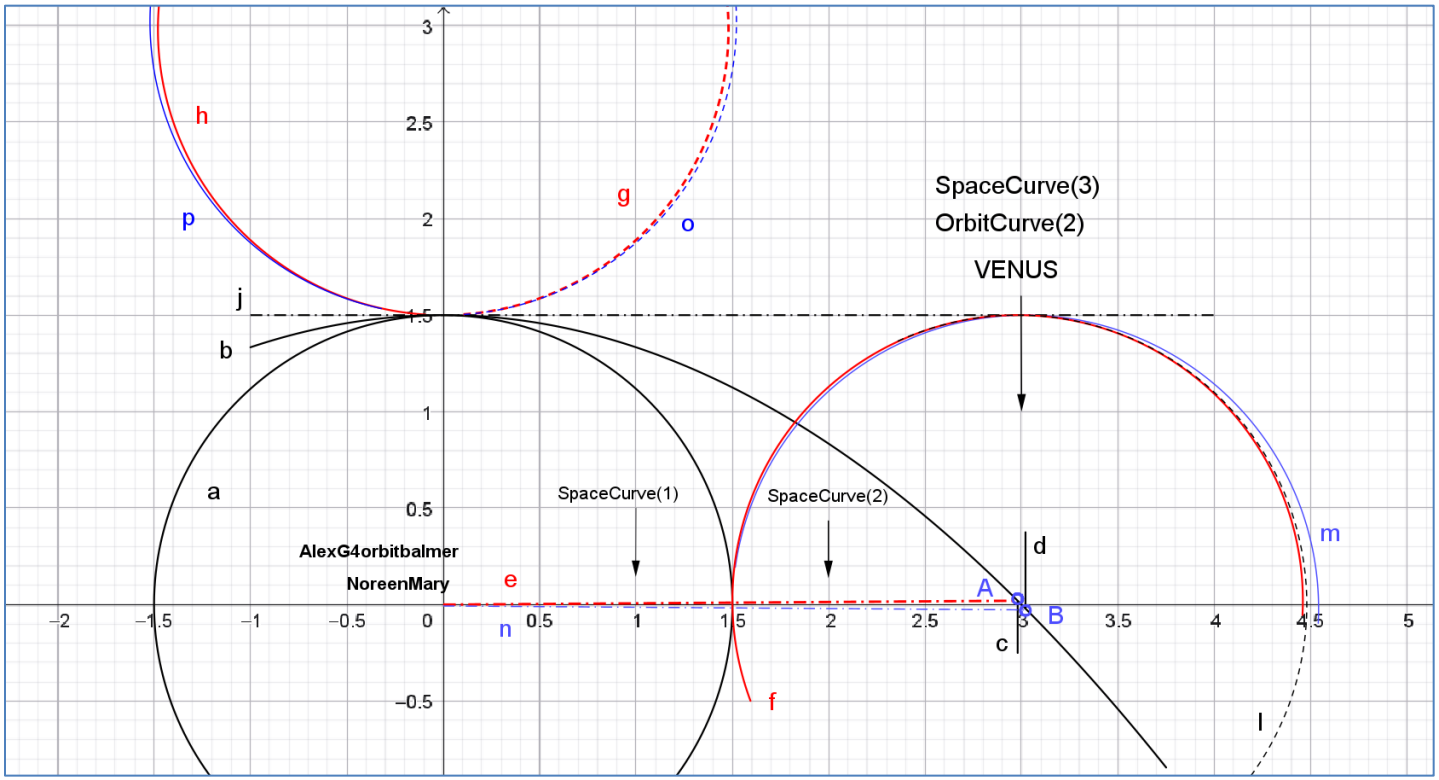
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VENUS

step #1 compose data field. VENUS

central relative position	□	square space	□	curved space
05 / 24 / GooGleAI	□	□	□	□
perihelion	□	107 370 000	□	1.98631
aphelion	□	108 850 000	□	2.01369
average	□	108 110 000	□	2
ASI	□	54 105 000	□	1
AVERAGE V	□	□	□	35.02
f (π)	□	727 538	0.020182	0.0136431
f (α)	□	−732 462	−0.020318	−0.0137369
□	□	□	□	□
focal radius (π)	□	107 482 462	□	1.98636
focal radius (α)	□	108 942 462	□	2.01374

VENUS: SPACECURVE(3); ORBITCURVE(2)



Venus provides confusion for me. The unity curve(l) seemed so close to perihelion motive energy curve(f) and purposely set remote with motive energy aphelion(m).

Might be due to energy expense on period acceleration working spacetime changing acceleration.

Max. orbitalvelocity	35.26	
Meanorbitalvelocity	35.02	Think acceleration from (35.02km/s) to (35.26km/s) is shorter space/unit time than energy of
Min. orbitalvelocity	34.79	

acceleration to go from (34.79km/s) to (35.02km/s). $(0.115\ \mathrm{km}/s)$ average velocity to go from aphelion to unity and $(0.12km/s)$ to go between unity and perihelion.

VENUS: SPACECURVE(3); ORBITCURVE(2)

Name	Description	Caption
Point A		position perihelion space TimesSquare period time curve.
Point B		position aphelion space TimesSquare period time curve.
Curve a	Curve(3 / 2 cos(t), 3 / 2 sin(t), t, -3.5, 3.5)	Discovery curve(a), for SpaceCurve$(2 * a)$.
Curve b	Curve(t, t² / -6 + 3 / 2, t, -1, 3.75)	Period time curve
Curve e	Curve(t, 0.02 + 0.01 (-2.98 + t), t, 0, 3 / 2 * 1.99)	Perihelion position vector acting on period curve(b).
Curve c	Curve(3 / 2 * 1.99, t, t, -0.25, 0.02)	domain limit radius perihelion
Curve d	Curve(3 / 2 * 2.01, t, t, 1.5(-0.01), 3 / 2 * 0.25)	Domain limit radius aphelion.
Curve f	Curve(3 / 2 .98636 cos(t) + 3 / 2 * 1.98631, 3 / 2 .98636 sin(t) + 3 / 2 * 0.0136, t, -0.05, 3.5)	Motive energy curve perihelion $(r, f(r))$ acting on period time curve.
Curve l	Curve(3 / 2 cos(t) + 3 / 2 * 1.99, 3 / 2 sin(t), t, -2, 2)	unity curve
Curve m	Curve(3 / 2 * 1.01cos(t) + 3 / 2 * 2.01, 3 / 2 * 1.01sin(t) - 0.02, t, -0.05, 3)	Motive energy curve domain radius aphelion.

Curve h	Curve(3 / 2 * 0.99cos(t), 3 / 2 * 0.99sin(t) + 3 / 2 * 1.99, t, -cos(60), 4.65)	Domain(r) motive energy curve(f) transfer to spin north. Curve(f) to curve(h).
Curve g	Curve(3 / 2 * 0.99cos(t), 3 / 2 * 0.99sin(t) + 3 / 2 * 1.99, t, -1.5, 2)	perihelion position vector(e) $(r, f(r))$ transferred to spinN. Curve(f) to curve(g)
Curve n	Curve(t, 3 / 2 (-0.01) - 0.01 (-2.01 + t), t, 0, 3 / 2 * 2.01)	Aphelion position vector(n) $(r, f(r))$ acting on period curve(b).
Curve j	Curve(t, 1.5, t, -1, 4)	Curved space directrix.
Curve o	Curve(3 / 2 * 1.01cos(t), 3 / 2 * 1.01sin(t) + 3 / 2 * 2.01, t, -1.5, 2)	aphelion position vector(n) $(r, f(r))$ transferred to spinN. Curve(m) to curve(o)
Curve p	Curve(3 / 2 * 1.01cos(t), 3 / 2 * 1.01sin(t) + 3 / 2 * 2.01, t, -cos(60), 4.5)	Domain radius aphelion limit(d) transfer to spinN. Curve(m) to curve(p)

Created with GeoGebra

EARTH: SpaceCurve(4), OrbitCurve(3)

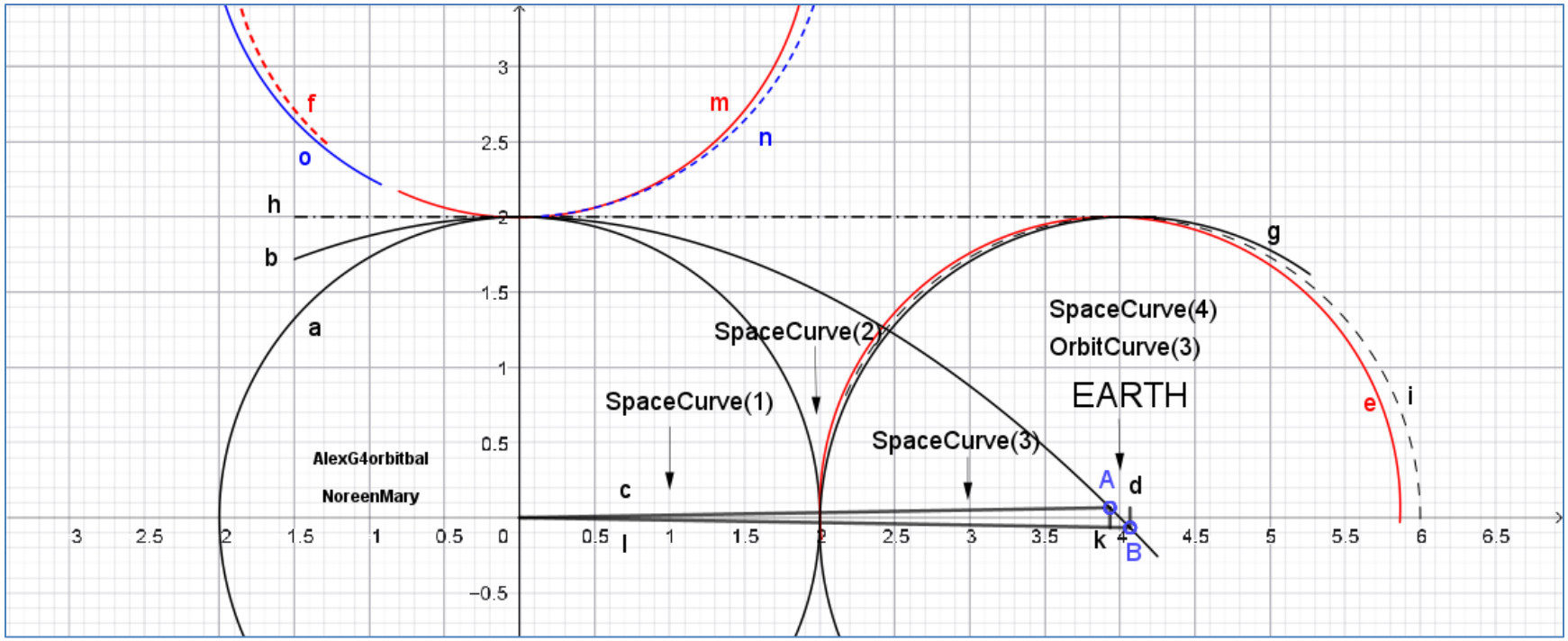
MECHANICAL ENERGY CURVES EARTH

ALΣXANDΣR; CEO SAND BOX GEOMETRY LLC

step #1 compose data field.

central relative position	□	square space	□	curved space
05 / 24 / GooGleAI	□	□	□	□
perihelion	□	147 070 000	□	1.96657
aphelion	□	152 070 000	□	2.03343
average	□	149 570 000	□	2
ASI	□	74 797 500	□	1
AVERAGE V	□	□	□	35.02
f (π)	□	2 484 030	0.066210	0.0331498
f (α)	□	−2 525 970	−0.0674035	−0.0337085
average v	□	29.78	□	29.78
focal radius (π)	□	147 115 970	□	1.96685
focal radius (α)	□	152 125 970	□	2.03371

EARTH: SPACECURVE(4); ORBITCURVE(3)



EARTH: SPACECURVE(4); ORBITCURVE(3)

Name	Description	Caption
Point A		Perihelion position vector acting on period curve(b).
Curve a	Curve(2cos(t), 2sin(t), t, -3.5, 3.5)	Discovery curve(a), for SpaceCurve$(2 * a)$.
Curve l	Curve(t, -0.0332 - 0.0163272 (-2.03342 + t), t, 0, 2 * 2.03342)	Position vector aphelion $(r, f(r))$ on period time curve.
Curve c	Curve(t, 0.0331498 + 0.0168566 (-1.96657 + t), t, 0, 2 * 1.96657)	Position vector perihelion $(r, f(r))$ on period time curve.
Curve k	Curve(2 * 1.97, t, t, 2(-0.03), 2 * 0.03)	domain limit radius perihelion
Curve d	Curve(2 * 2.03, t, t, -0.07, 0.07)	domain limit radius aphelion
Curve e	Curve(2 * 0.97 cos(t) + 2 * 1.97, 2 * 0.97 sin(t) + 2 * 0.03, t, -0.05, 3.25)	Motive energy curve perihelion $(r, f(r))$ acting on period time curve.
Curve m	Curve(2 * 0.97cos(t), 2 * 0.97sin(t) + 2 * 1.97, t, -2, 2)	Domain(r) motive energy curve(e) transfer to spin north. Curve(e) to curve(m)

Curve h	Curve(t, 2, t, -1.5, 4.25)	Curved space directrix
Curve b	Curve(t, t² / -8 + 2, t, -1.5, 4.25)	Definition curve for curve(a), period curve for OrbitCurve(SC-1)
Curve f	Curve(2 * 0.97cos(t), 2 * 0.97sin(t) + 2 * 1.97, t, -cos(60), 4)	perihelion position vector(c) $(r, f(r))$ transferred to spinN. Curve(e) to curve(f)
Point B		Aphelion position vector(l) $(r, f(r))$ acting on period curve(b).
Curve g	Curve(2 * 1.03cos(t) + 2 * 2.03, 2 * 1.03sin(t) - 2 * 0.03, t, -cos(60), 3.5)	Domain limit(d) motive energy radius aphelion.
Curve i	Curve(2cos(t) + 4, 2sin(t), t, -0.01, 2.75)	Unity curve
Curve n	Curve(2 * 1.03cos(t), 2 * 1.03sin(t) + 2 * 2.03, t, -1.5, 2)	aphelion position vector(l) $(r, f(r))$ transferred to spinN. Curve(g) to curve(n)
Text text10		
Curve o	Curve(2 * 1.03cos(t), 2 * 1.03sin(t) + 2 * 2.03, t, -cos(60), 4.25)	Motive energy curve domain radius aphelion transferred to spinN. Curve(g) to curve(o).

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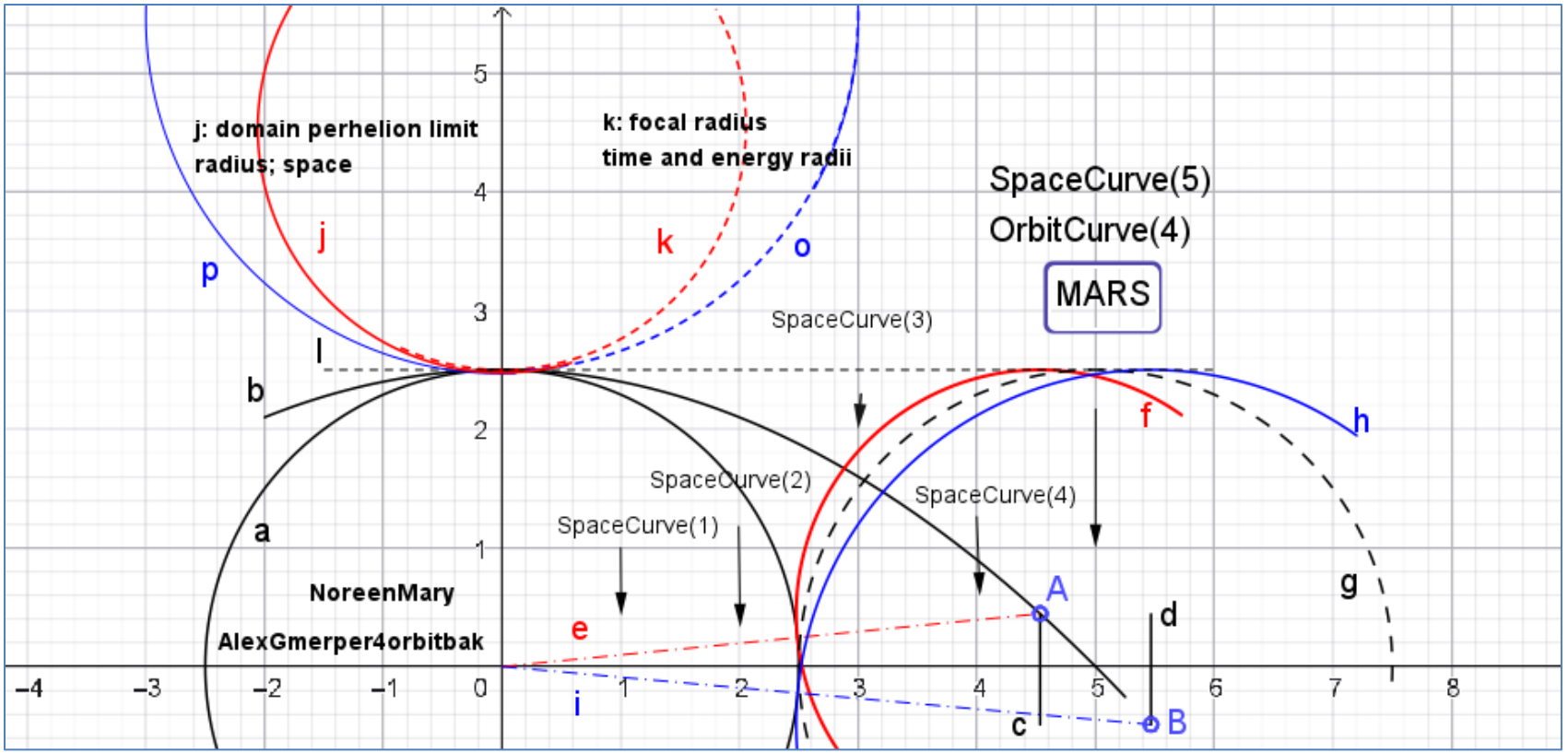
MECHANICAL ENERGY CURVES MARS

ALΣXANDΣR; CEO SAND BOX GEOMETRY LLC

step #1 compose data field.

central relative position	square space	curved space
05 / 24 / GooGleAI		
perihelion	206 560 000	1.8132
aphelion	249 120 000	2.1868
average	227 840 000	2
ASI	108 600 000	1
AVERAGE V		24.13
f (π)	20 309 300	0.178076
f (α)	−22 300 700	−0.195522
average v	24.13	24.13
focal radius (π)	207 615 700	1.82192
focal radius (α)	250 225 700	2.19552

MARS: SPACECURVE(5); ORBITCURVE(4)



MARS: SPACECURVE(5); ORBITCURVE(4)

Name	Description	Caption
Curve a	Curve(5 / 2 cos(t), 5 / 2 sin(t), t, -3.5, 3.5)	Discovery curve(a), for SpaceCurve$(2 * a)$.
Curve b	Curve(t, t² / -10 + 5 / 2, t, -2, 5.25)	Definition curve for curve(a), period curve for OrbitCurve(SC-1)
Curve c	Curve(5 / 2 * 1.81, t, t, 5 / 2 (-0.2), 5 / 2 * 0.18)	Abscissa ID domain limit radius perihelion
Curve e	Curve(t, 0.18 + 0.1 (-1.81 + t), t, 0, 5 / 2 * 1.81)	Position vector perihelion $(r, f(r))$ on period time curve.
Curve d	Curve(5 / 2 * 2.19, t, t, 5 / 2 (-0.2), 5 / 2 * 0.18)	Abscissa ID domain limit radius aphelion
Point A		Perihelion position vector acting on period curve(b).
Curve f	Curve(5 / 2 * 0.82 cos(t) + 5 / 2 * 1.81, 5 / 2 * 0.82 sin(t) + 5 / 2 * 0.18, t, -cos(60), 3.75)	Motive energy curve perihelion $(r, f(r))$ acting on period time curve.
Curve g	Curve(5 / 2 cos(t) + 5, 5 / 2 sin(t), t, -0.05, 3.75)	UNITY CURVE
Curve h	Curve(5 / 2 * 1.2cos(t) + 5 / 2 * 2.19, 5 / 2 * 1.2sin(t) - 5 / 2 * 0.2, t, -cos(60), 3.75)	Motive energy curve aphelion $(r, f(r))$ acting on period time curve.
Curve i	Curve(t, -0.2 - 0.09 (-2.19 + t), t, 0, 5 / 2 * 2.19)	Aphelion position vector(i) $(r, f(r))$ acting on period curve(b).

Curve k	Curve(5 / 2 * 0.82 cos(t), 5 / 2 * 0.82 sin(t) + 5 / 2 * 1.82, t, -2, 0.5)	perihelion position vector(e) $(r, f(r))$ transferred to spinN. Curve(f) to curve(k)
Point B		Aphelion position vector(i) $(r, f(r))$ acting on period curve(b).
Curve l	Curve(t, 5 / 2, t, -1.5, 6)	Curved space directrix
Curve o	Curve(5 / 2 * 1.2cos(t), 5 / 2 * 1.2sin(t) + 5 / 2 * 2.2, t, -1.5, 2)	aphelion position vector(i) $(r, f(r))$ transferred to spinN. Curve(h) to curve(o)
Curve p	Curve(5 / 2 * 1.2cos(t), 5 / 2 * 1.2sin(t) + 5 / 2 * 2.19, t, -cos(60°), 4.75)	Aphelion domain limit $(radius^2)^{-1}$ transfer to spinN. Curve(h) to curve(p)
Curve j	Curve(5 / 2 * 0.82 cos(t), 5 / 2 * 0.82 sin(t) + 5 / 2 * 1.81, t, -cos(60), 5)	Domain(r) motive energy curve(f) transfer to spin north. Curve (f) to curve(j)
Text text14		

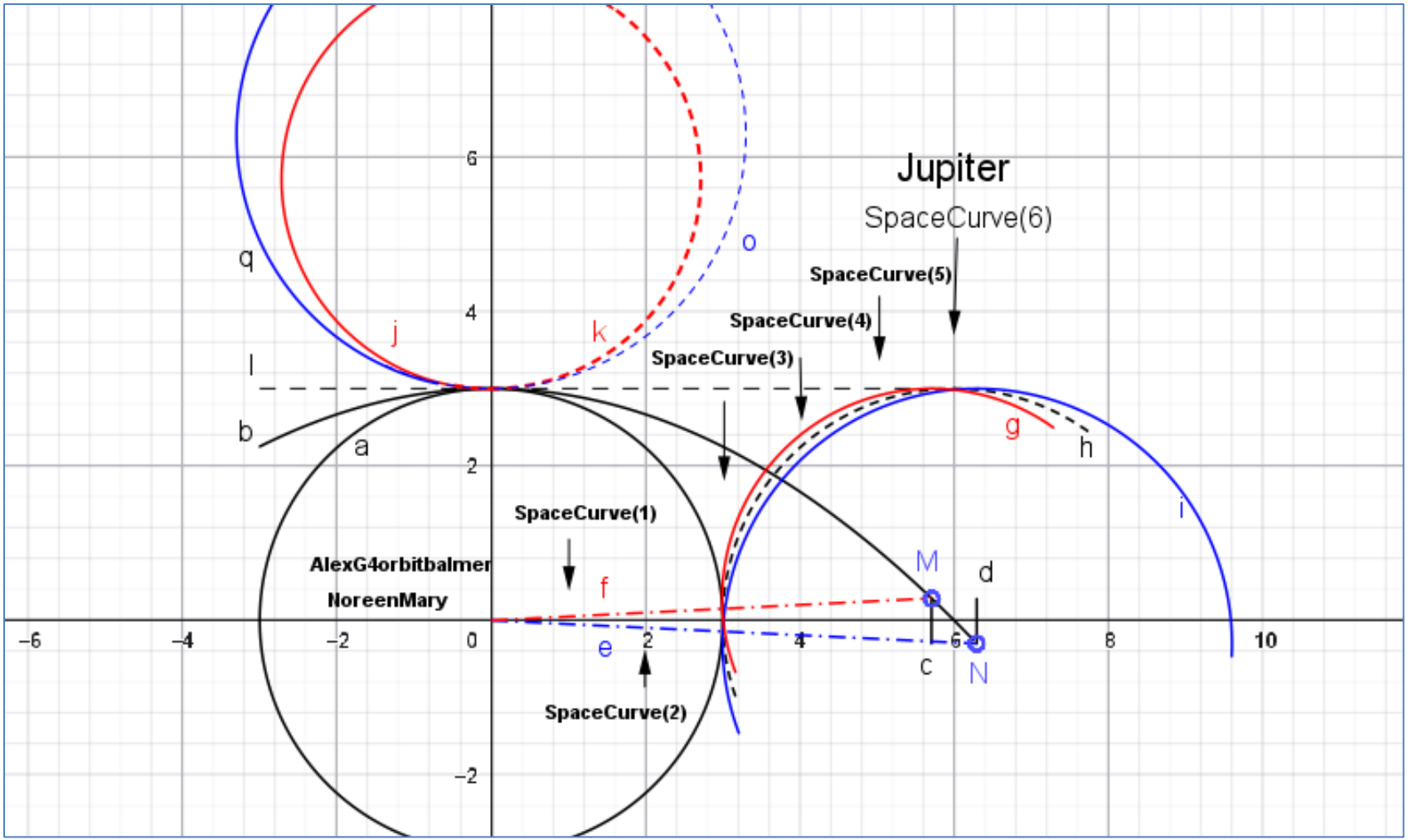
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MECHANICAL ENERGY CURVES JUPITER

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central relative position	square space		curved space
05 / 24 / GooGleAI			
perihelion	740 480 000		1.90321
aphelion	815 800 000		2.09679
average	778 140 000		2
ASI	389 285 000		1
AVERAGE V			13.07
f (π)	37 120 200	0.283358	0.0944526
f (α)	−38 979 800	−0.297412	−0.0991372
average v	13.07		
focal radius (π)	741 449 800	3.3086	1.90555
focal radius (α)	817 549 800	3.64391	2.09914

MECHANICAL ENERGY CURVES JUPITER



MECHANICAL ENERGY CURVES JUPITER

Name	Description	Caption
Curve a	Curve(3cos(t), 3sin(t), t, -4, 4)	Discovery curve(a), for SpaceCurve$(2 * a)$.
Curve b	Curve(t, t^2 / -12 + 3, t, -3, 6.25)	Definition curve for curve(a), period curve for OrbitCurve(SC-1)
Curve c	Curve(3 * 1.9, t, t, -3 * 0.1, 3 * 0.1)	Abscissa ID domain limit radius perihelion
Curve d	Curve(3 * 2.1, t, t, -3 * 0.1, 3 * 0.1)	Abscissa ID domain limit radius aphelion
Curve e	Curve(t, -0.1 - 0.05 (-2.1 + t), t, 0, 3 * 2.1)	Position vector aphelion $(r, f(r))$ on period time curve.
Curve f	Curve(t, 0.1 + 0.05 (-1.9 + t), t, 0, 3 * 1.9)	Position vector perihelion $(r, f(r))$ on period time curve.
Curve h	Curve(3cos(t) + 6, 3sin(t), t, -cos(60), 3.5)	Unity Curve
Curve i	Curve(3 * 1.1cos(t) + 3 * 2.1, 3 * 1.1sin(t) - 3 * 0.1, t, -0.05, 3.5)	Motive energy curve aphelion $(r, f(r))$ acting on period time curve.
Curve l	Curve(t, 3, t, -3, 6)	Curved space directrix
Curve g	Curve(3 * 0.91cos(t) + 3 * 1.9, 3 * 0.91sin(t) + 3 * 0.09, t, -cos(60), 3.5)	Motive energy curve perihelion $(r, f(r))$ acting on period time curve.

Curve j	Curve(3 * 0.91cos(t), 3 * 0.91sin(t) + 3 * 1.9, t, -cos(60), 4.75)	Domain radius curve(c), motive energy curve(g) transfer to spin(N). Curve (g) to curve(j)
Curve k	Curve(3 * 0.91cos(t), 3 * 0.91sin(t) + 3 * 1.91, t, -1.75, 2)	Motive energy perihelion position vector(f) $(r, f(r))$ acting on period curve(b) transfer to spin(N). Curve(g) to curve(k).
Curve o	Curve(3 * 1.1cos(t), 3 * 1.1sin(t) + 3 * 2.1, t, -2, 2)	Motive energy aphelion position vector(e) $(r, f(r))$ acting on period curve(b) transfer to spin(N). Curve(i) to curve(o).
Curve q	Curve(3 * 1.1cos(t), 3 * 1.1sin(t) + 3 * 2.1, t, -cos(60°) + 2, 4.5)	Domain aphelion radius limit curve(d), motive energy curve(i), transfer to spin(N). Curve (i) to curve(q)
Point M		Limit orbit curve perihelion @ period spacetime square.
Point N		Limit orbit curve aphelion @ period spacetime square.

Created with **GeoGebra**

What's going on with Mercury??	April 10 2026

Conclusion.

Just because my library has been an open door since 2011 does not mean I am open access forever, lessn' I croak of course, then you'all can have at it! Lack of interest to help build a secure published legacy contributing and growing our human knowledge base is inbred prejudice against non-mentored group think. As a dear college degreed friend and Wolfram associate once told me. "If we use your idea, we have a lot of teaching to do."

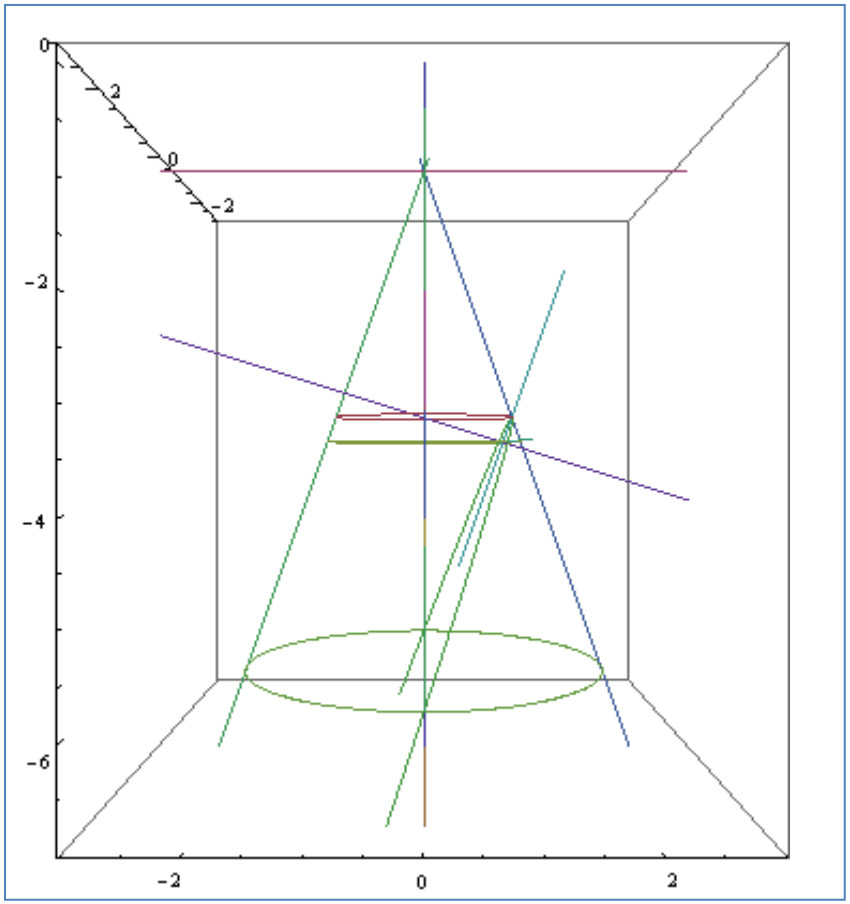
So I sez' to him. "That's what I thought you were doing here."

I intend to improve my think items, publish them myself and do the teach.

I've been asking for a very long time for help to support a starving artist. My conclusion will be the kickoff event for my new website readingsfromthesandbox.com. Like everything and anything, I need consume energy for existence. And unfortunately energy for humans is no longer scraped from environment resources of territory but a manufactured environment of cold hard cash. Material wealth or something to barter or exchange for grain, for my piece of bread and a place to call home is the new energy of existence, such is the pain of thinking. The charge for edited re-write of my SandBox collection, including upcoming conclusion, will be $50US. if you are afflicted with difficulties as I am, say so, the charge will be $25US. To the point, I will publish my own journal. And what a journal to be!

Thank you. AlexG

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Sand Box Geometry LLC, a company dedicated to utility of Ancient Greek Geometry in pursuing exploration and discovery of Central Force Field Curves.

Using computer parametric geometry code to construct the focus of an Apollonian parabola section within a right cone.

“It is remarkable that the directrix does not appear at all in Apollonius great treatise on conics. The focal properties of the central conics are given by Apollonius, but the foci are obtained in a different way, without any reference to the directrix; the focus of the parabola does not appear at all... Sir Thomas Heath: “A HISTORY OF GREEK MATHEMATICS” page 119, book II.

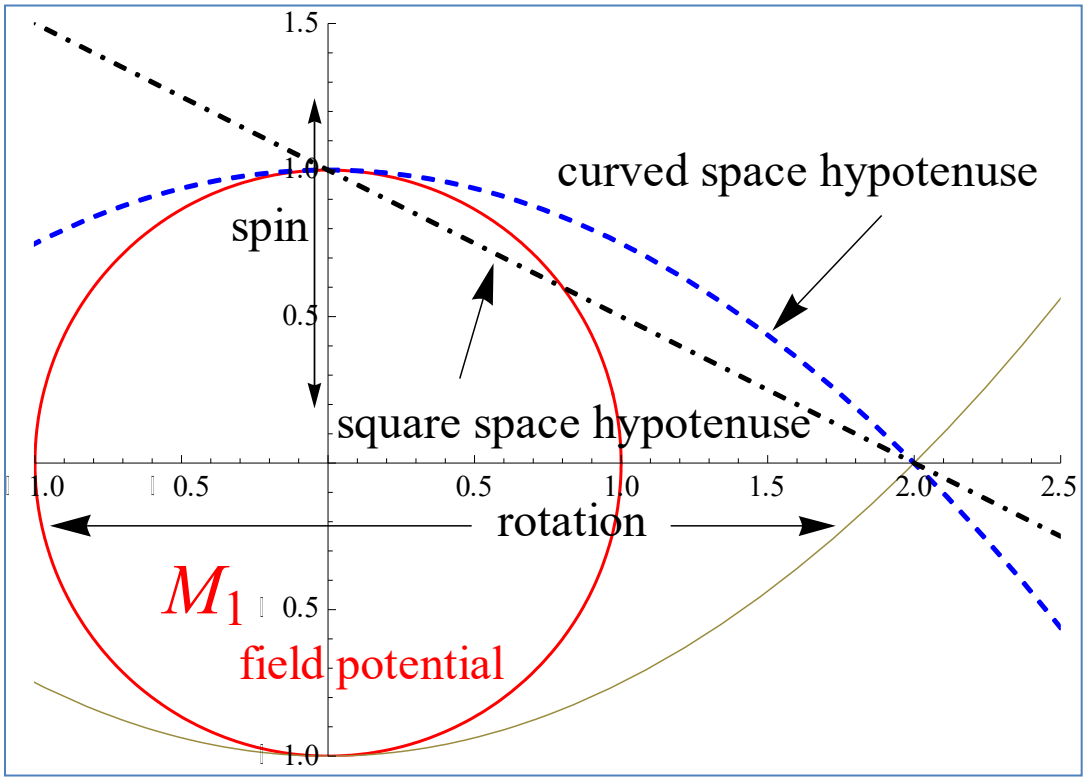
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The computer is my sandbox, the unit circle my compass, and the focal radius of the unit parabola my straight edge.

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CAGE FREE THINKIN' FROM THE SAND BOX

The square space hypotenuse of Pythagoras is the secant connecting (π/2) spin radius (0, 1) with accretion point (2, 0). I will use the curved space hypotenuse, also connecting spin radius (π/2) with accretion point (2, 0), to analyze g-field mechanical energy curves.



CSDA demonstration of a curved space hypotenuse and a square space

hypotenuse together.

We have two curved space hypotenuses because the gravity field is a symmetrical central force and will have an energy curve at the N pole and one at the S pole of spin; just as a bar magnet. When exploring changing acceleration energy curves of M_2 orbits, we will use the N curve as our planet group approaches high energy perihelion on the north time/energy curve.

ALΣXANDΣR; CEO SAND BOX GEOMETRY LLC

alexandersbg.com@gmail.com