

Readings from the SandBox. Mercury; the fleet footed messenger of God.

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 boundary. 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.

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

ALEXANDER; CEO SAND BOX GEOMETRY LLC

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 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 clean 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; 4600 words

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, right up next to it!

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:

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

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 Our Mercury.

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

How to construct mechanical energy curves using a basic CSDA. Curve(a) is discovery and Curve(b) is definition.

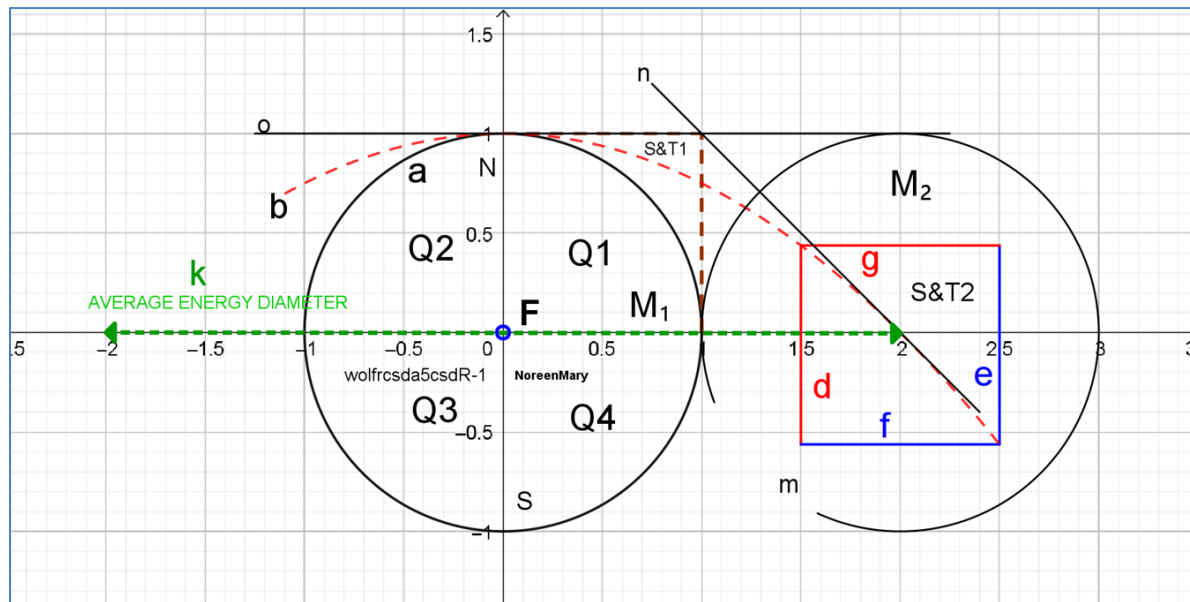


Figure 1: A basic CSDA. We have two unity curves on system domain. One for M_1 potential, one for M_2 motion. Curve(a) is discovery curve for SpaceCurve(2). Curve(b) is the period time curve for M_2 and definition curve SC(2)&OC(1) for discovery(a).

Average energy diameter of (M_2), (*curve(k)*), exists on the central force domain between (± 2); A CSDA principal chord latus rectum sourced from period time curve(b). This serves Sir Isaac Newton's average energy diameter displacement(r) @integer(+2) 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 on these 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) = (± 1) on period time curve in (S&T2). I use Quadrant (1) and quadrant(4) because our planet group approach perihelion in a south to north direction on the orbit period time curve.

I use two colors in my constructions. Red for high energy parameters. Blue are 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 of same shape as 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. We reference system mechanical energy of orbits using my CSDA (Curved Space Division Assembly) unity curves.

UNITY CURVES AND THE CURVED SPACE DIRECTRIX OF A CSDA

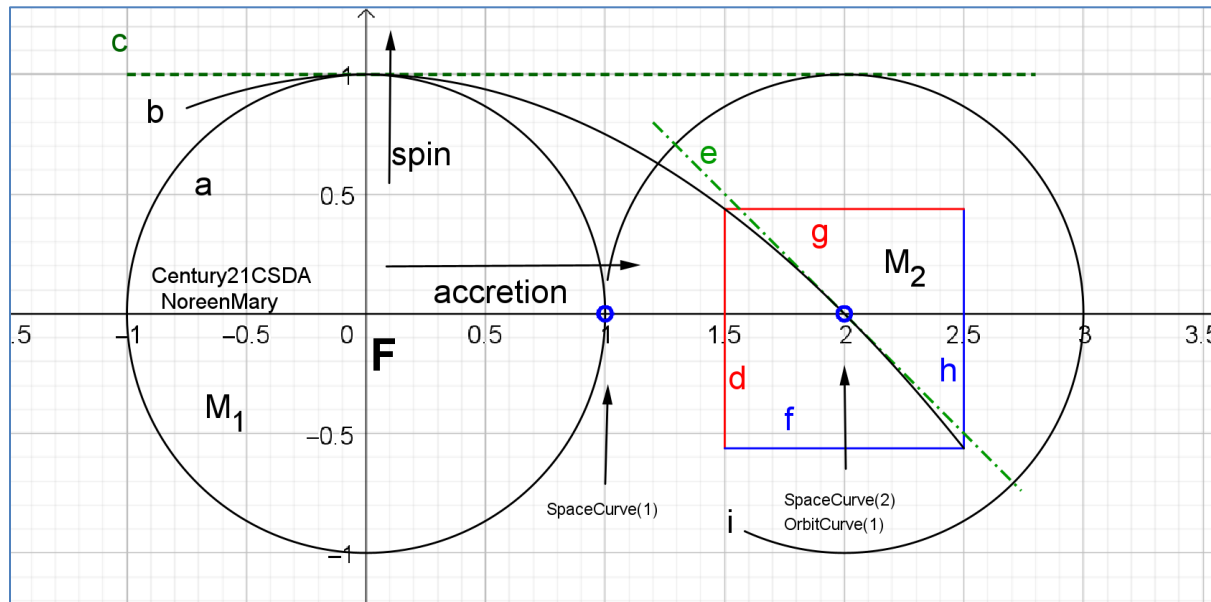


Figure 2: Basic CSDA with orbit limits. Curve(d) is perihelion and curve(h) aphelion. M_2 spacetime square(d, g, h, f) determines time of period motion between limits perihelion and aphelion. The M_2 unity curve is captured by potential curve(a) and system curved space directrix(c).

Three motion vectors are required for stable orbit: momentum, acceleration, and torsion. These three vectors can be rendered with a plane geometry space-time square (Cartesian Coordinate System) as:

- (1) momentum: velocity, around the spin axis, into the paper and across period curve(b).
- (2) acceleration: along the radius vector from central force F working period curves.

And (3) torsion, Energy tangents. Curve(e) defines curved space motive energy progress. The $(r, f(r))$ happenings on period time

curve. Torsion, curves an orbits vectored direction, using Sir Isaac Newton’s changing accelerations and M_1 potential.

There is a rule (theorem?) I've not spoken of too often and the reader may not be aware of because it's buried in my what might be called the 1st International ‘Blog’ working 16 years. For an orbit to remain stable, (M_2) motive energy curves must maintain contact with the System CurvedSpace Directrix as Range and Potential as Domain.

PART(2) MECHANICAL ENERGY AND ORBITS

Orbit data for Mercury; SpaceCurve(2), OrbitCurve(1). Center column is kilometer space, right column is CSDA CurvedSpace units.

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 This is old stuff; some work I might have put together 2010 or so using Wolfram Mathematica. May be an old reference, but these numbers work constructing mechanical energy curves so let us use 'em.

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.

My CSDA SpaceTime Square constructed for Mercury is by far the largest space and energy square of our Planet Group. The focal radii working the period time curve metering energy and position of perihelion and aphelion, are an extreme separation of beginning and end on the period curve(*b*).

Explanation for CSDA mechanical energy happenings and its geography will be covered by GeoGebra protocol list at the end of my constructions for planet Mercury and its limits.

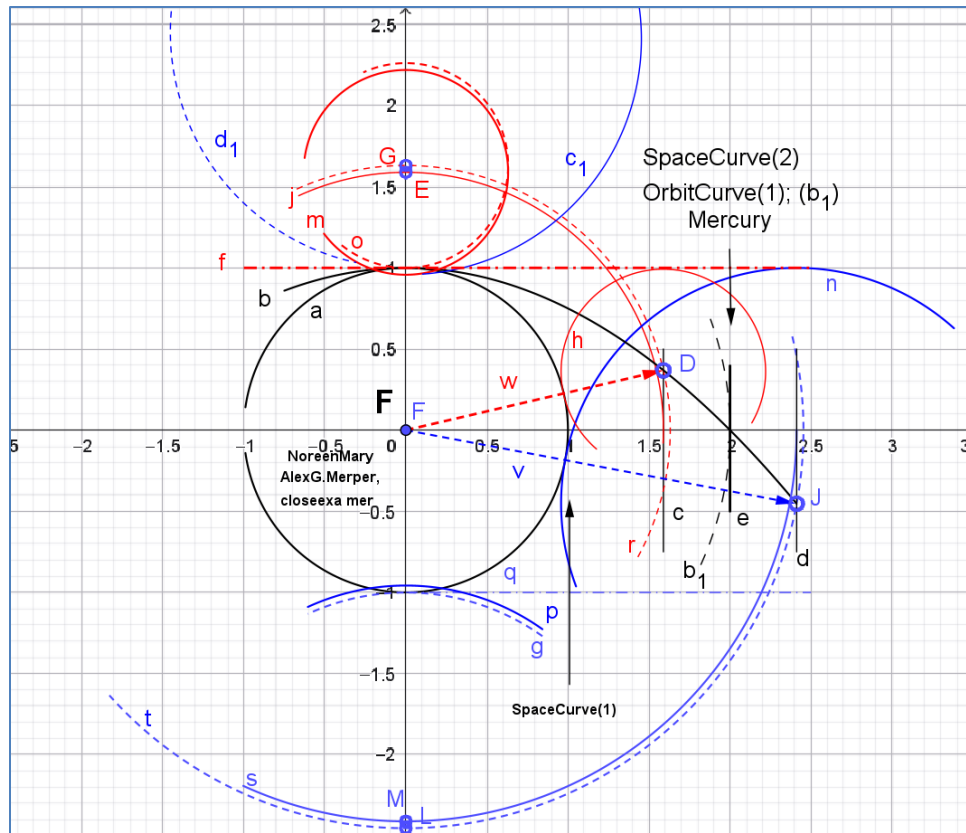


Figure 4: I have two period limiting curves of Mercury constructed. Period curve(j) is perihelion@domain limit(c). Period curve aphelion(s)@domain limit(d). I've constructed motive energy curve(h) for perihelion and motive energy curve(n) for aphelion. Each motive curve present two analytic radii I transfer 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): domain displacement radius(c). 3. Curve(c1) is aphelion motive energy curve(n) domain radius(d) transfer to to spin. 4. and curve(d1) is (r, f(r)) radius vector(v) acting@point(J) on period curve(b). The consumption by potential of domain radii motive energy, Curve(c1) and curve(m) will be discussed in my conclusion.

2.45328mercury and spacetime: OrbitCurve(1), SpaceCurve(2) period motion. ALEXANDER

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

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 curves. (j) for perihelion and curve(s) for aphelion. The hash lines are (r, f(r)) radius vector(w&v) orbit energy happenings on (M₂) period time curve(b). Curves(t&r).

Translation will transfer motive energy (curve(h) and position vector(w), energy curve(r), to spin axis(N) becoming curve(h → m) and curve(r → o).

There is only one motive energy curve for limit perihelion that can fit between the curved space directrix(f) and potential(M₁). That is curve(h). Its radius is: (focal magnitude(w) – potential(1unit)) with center placed at (r, f(r)) on the period time curve(b). Perihelion motive energy curve(h) carries two transfer radii. One is Sir Isaac Newton's domain(r); perihelion limit curve(c) the other is orbit energy (f(r))

provided by radius vector(w) following period motion (r, f(r)) on curve(b). Curve(m) at spin has domain radius perihelion (center(E) and curve(o) at spin has focal radius magnitude (r, f(r)), center(G).

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Curve(o) with center(G) clings to the Curved Space DirectrixN(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). Energy alone keeps the planet in free orbit motion avoiding collapse into dominant solar potential of our sun.

Orbit parameters of Mercury are: Perihelion domain limit is line(c). Aphelion line(d), on the domain of F , is also a limit. Line(e) is the average energy diameter of Sir Isaac Newton's S&T(2). Ordinate ends of displacement curves(c & d) are composite range ($-f(r) \leftrightarrow +f(r)$), aphelion is always negative energy.

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

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. 1.588units
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 . 1.588units
Point D		Position vector determination of event perihelion ($r, f(r)$) on period time curve(b).
Point E		Center domain limit perihelion energy curve(h) transfer to spin; curve(m). (1.588units)
Point G		Center ($r, f(r)$) motive enrgy perihelion position vector(w) transfer to spinN. 1.631unit
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. ($v - 1 = \text{radius curve}(n)$)
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)
Vector u	Vector(A, G ₁)	Not used here
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 2.41104units. 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. ($r = 2.453626\text{unit}$) 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, t ² / -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](https://www.geogebra.org/m)

Readings from the SandBox. Mercury; the fleet footed messenger of God.

Explanatory.

Quite a confusing construction.

1. The first item we need to place is uniform acceleration. I label this item as Galileo's first second space-time. A credit to the person who first explored the properties of being glued to the surface of the Earth. Let Galileo's S&T(1) be (M_1) potential, curve(a) my discovery curve.
2. Next we visit S&T(2). Sir Isaac Newton's exploration of changing acceleration of (M_2) orbit period curves. This will provide us with the period time curve(b). My discovery curve(a) definition curve(b), defining place in space of SpaceCurve(n) inquiry.

potential and acceleration

3. Galileo's uniform acceleration of an (M_1M_2) system is S&T(1). Curve(a) is SpaceCurve(1), and M_1 potential. Sir Isaac Newton's average energy diameter will be the latus rectum produced from the period time curve(b). I use the positive half of the latus rectum on the domain numbered field. Integer 2, SpaceCurve 2, OrbitCurve(1), Mercury.
4. We next construct the period limit curves of Sir Isaac Newton. Perihelion and aphelion. His average energy diameter for Mercury OrbitCurve(1) will be curve(e). Displacement radius for perihelion will be curve(j) and displacement radius for aphelion will be curve(s). These curves have color. Red for high energy perihelion and blue for low energy aphelion. These curves have active radii energy given by Sir Isaac Newton G-field Law. These solid line curves represent his displacement(r) of orbit motion $(r, f(r))$.

motive energy of (M_2) . The $(f(r))$ of $(r, f(r))$.

I've constructed motive energy curves perihelion and aphelion ($curves(h\&n)$). ($curves(h\&n)$) are solid line curves. these curves are energy of motion on period curve(b). Though they are derived from Sir Isaac Newton's domain displacement(r), ($curves(j\&s)$), use position Vectors($v\&w$) working the period time curve points ($D\&J$); to produce dashed line orbit energy curves($t\&j$).

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

Readings from the SandBox. Mercury; the fleet footed messenger of God.

(curves(h&n)):

The smaller curve(*h*) is perihelion motive energy curve and that is derived from position vector(*w*). The larger curve(*n*) is the aphelion motive energy curve and that is derived from position vector(*v*). Each possess two active radii working G-field orbits. One is Sir Isaac Newton's displacement domain property (*r*)@(*SpaceCurve*(2); *OrbitCurve*(1)). The other one will be the position vector(*w*) and position vector(*v*). The (*r, f(r)*) energy of orbit motion, curves(*r&t*).

Curves(*j&r*) of limit perihelion are red and are constructed in Quadrants 1, 2, and 4. Curves(*s&t*) of limit aphelion are blue and are constructed in Quadrants 1, 3, and 4. I've transferred domain and position vector radii for both perihelion and aphelion to spin(N). At spin(S) I transfer only domain and position energy of limit aphelion.

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

PART(3)

MECHANICAL ENERGY CURVES MERCURY

ALEXANDER; CEO SAND BOX GEOMETRY LLC

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

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($t, t^2 / -4 + 1, t, -1, 2.5$)	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($1.45\cos(t), 1.45\sin(t) + 2.45, t, -1.5, 2$)	aphelion position vector(l) $(r, f(r))$ transferred to spinN. Curve(k) to curve(o).
Curve p	Curve($1.45\cos(t), 1.45\sin(t) + 2.41, t, -\cos(90^\circ), 4.5$)	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.

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MECHANICAL ENERGY CURVES VENUS

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VENUS

step #1 compose data field. VENUS

central relative position	<input type="checkbox"/>	square space	<input type="checkbox"/>	curved space
05 / 24 / GoogleAI	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
perihelion	<input type="checkbox"/>	107 370 000	<input type="checkbox"/>	1.98631
aphelion	<input type="checkbox"/>	108 850 000	<input type="checkbox"/>	2.01369
average	<input type="checkbox"/>	108 110 000	<input type="checkbox"/>	2
ASI	<input type="checkbox"/>	54 105 000	<input type="checkbox"/>	1
AVERAGE V	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	35.02
f (π)	<input type="checkbox"/>	727 538	0.020182	0.0136431
f (α)	<input type="checkbox"/>	-732 462	-0.020318	-0.0137369
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
focal radius (π)	<input type="checkbox"/>	107 482 462	<input type="checkbox"/>	1.98636
focal radius (α)	<input type="checkbox"/>	108 942 462	<input type="checkbox"/>	2.01374

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

Curve h	Curve($3 / 2 * 0.99\cos(t)$, $3 / 2 * 0.99\sin(t) + 3 / 2 * 1.99$, t , $-\cos(60)$, 4.65)	Domain(r) motive energy curve(f) transfer to spin north. Curve(f) to curve(h).
Curve g	Curve($3 / 2 * 0.99\cos(t)$, $3 / 2 * 0.99\sin(t) + 3 / 2 * 1.99$, 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($3 / 2 * 1.01\cos(t)$, $3 / 2 * 1.01\sin(t) + 3 / 2 * 2.01$, t , -1.5, 2)	aphelion position vector(n) ($r, f(r)$) transferred to spinN. Curve(m) to curve(o)
Curve p	Curve($3 / 2 * 1.01\cos(t)$, $3 / 2 * 1.01\sin(t) + 3 / 2 * 2.01$, t , $-\cos(60)$, 4.5)	Domain radius aphelion limit(d) transfer to spinN. Curve(m) to curve(p)

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EARTH: SpaceCurve(4), OrbitCurve(3)

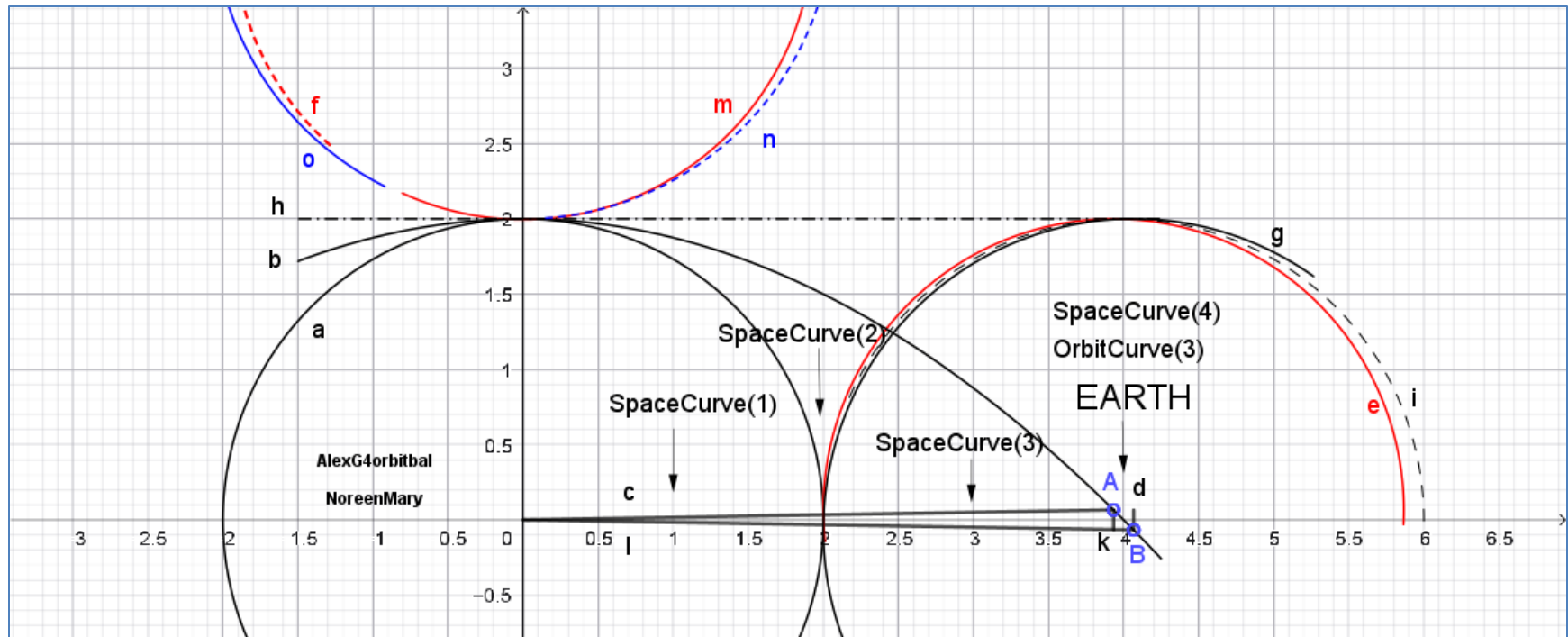
MECHANICAL ENERGY CURVES EARTH

ALEXANDER; CEO SAND BOX GEOMETRY LLC

step #1 compose data field.

central relative position	<input type="checkbox"/>	square space	<input type="checkbox"/>	curved space
05 / 24 / GoogleAI	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
perihelion	<input type="checkbox"/>	147 070 000	<input type="checkbox"/>	1.96657
aphelion	<input type="checkbox"/>	152 070 000	<input type="checkbox"/>	2.03343
average	<input type="checkbox"/>	149 570 000	<input type="checkbox"/>	2
ASI	<input type="checkbox"/>	74 797 500	<input type="checkbox"/>	1
AVERAGE V	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	35.02
f (π)	<input type="checkbox"/>	2 484 030	0.066210	0.0331498
f (α)	<input type="checkbox"/>	-2 525 970	-0.0674035	-0.0337085
average v	<input type="checkbox"/>	29.78	<input type="checkbox"/>	29.78
focal radius (π)	<input type="checkbox"/>	147 115 970	<input type="checkbox"/>	1.96685
focal radius (α)	<input type="checkbox"/>	152 125 970	<input type="checkbox"/>	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($2\cos(t), 2\sin(t), t, -3.5, 3.5$)	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($2 * 0.97\cos(t), 2 * 0.97\sin(t) + 2 * 1.97, t, -2, 2$)	Domain(r) motive energy curve(e) transfer to spin north. Curve(e) to curve(m)

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

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MECHANICAL ENERGY CURVES MARS

ALEXANDER; CEO SAND BOX GEOMETRY LLC

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

step #1 compose data field.

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 , $t^2 / -10 + 5 / 2$, 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($5 / 2 * 1.2\cos(t) + 5 / 2 * 2.19$, $5 / 2 * 1.2\sin(t) - 5 / 2 * 0.2$, 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($5 / 2 * 1.2\cos(t), 5 / 2 * 1.2\sin(t) + 5 / 2 * 2.2, t, -1.5, 2$)	aphelion position vector(i) ($r, f(r)$) transferred to spinN. Curve(h) to curve(o)
Curve p	Curve($5 / 2 * 1.2\cos(t), 5 / 2 * 1.2\sin(t) + 5 / 2 * 2.19, t, -\cos(60^\circ), 4.75$)	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		

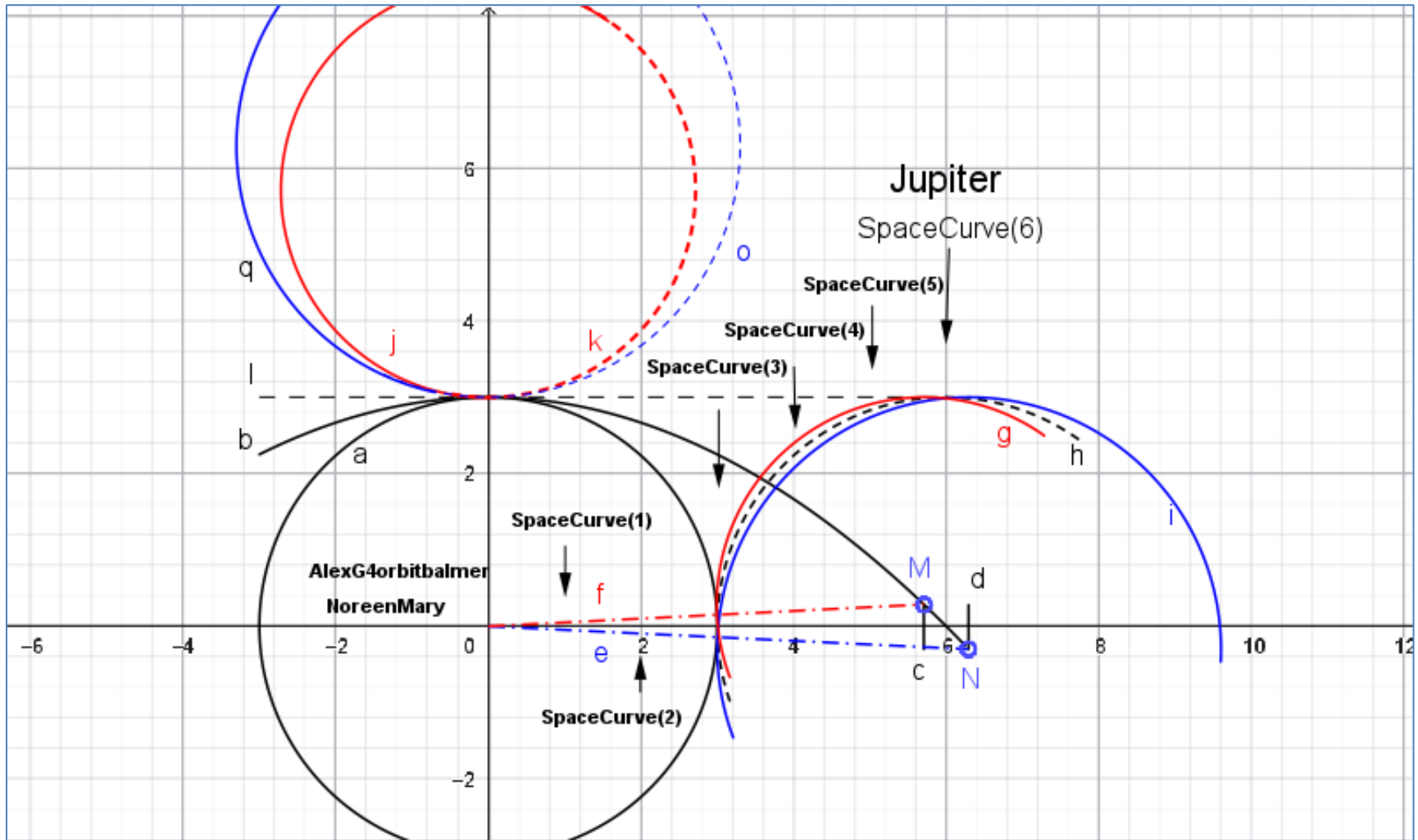
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MECHANICAL ENERGY CURVES JUPITER

ALEXANDER; CEO SAND BOX GEOMETRY LLC

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
f (α)	-38 979 800	-0.297412
average v	13.07	
focal radius (π)	741 449 800	3.3086
focal radius (α)	817 549 800	3.64391

MECHANICAL ENERGY CURVES JUPITER



MECHANICAL ENERGY CURVES JUPITER

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

Curve j	Curve($3 * 0.91\cos(t)$, $3 * 0.91\sin(t) + 3 * 1.9$, 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($3 * 0.91\cos(t)$, $3 * 0.91\sin(t) + 3 * 1.91$, 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($3 * 1.1\cos(t)$, $3 * 1.1\sin(t) + 3 * 2.1$, 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($3 * 1.1\cos(t)$, $3 * 1.1\sin(t) + 3 * 2.1$, t , $-\cos(60^\circ) + 2$, 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.

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What's going on with Mercury??

April 10

2026

Conclusion.

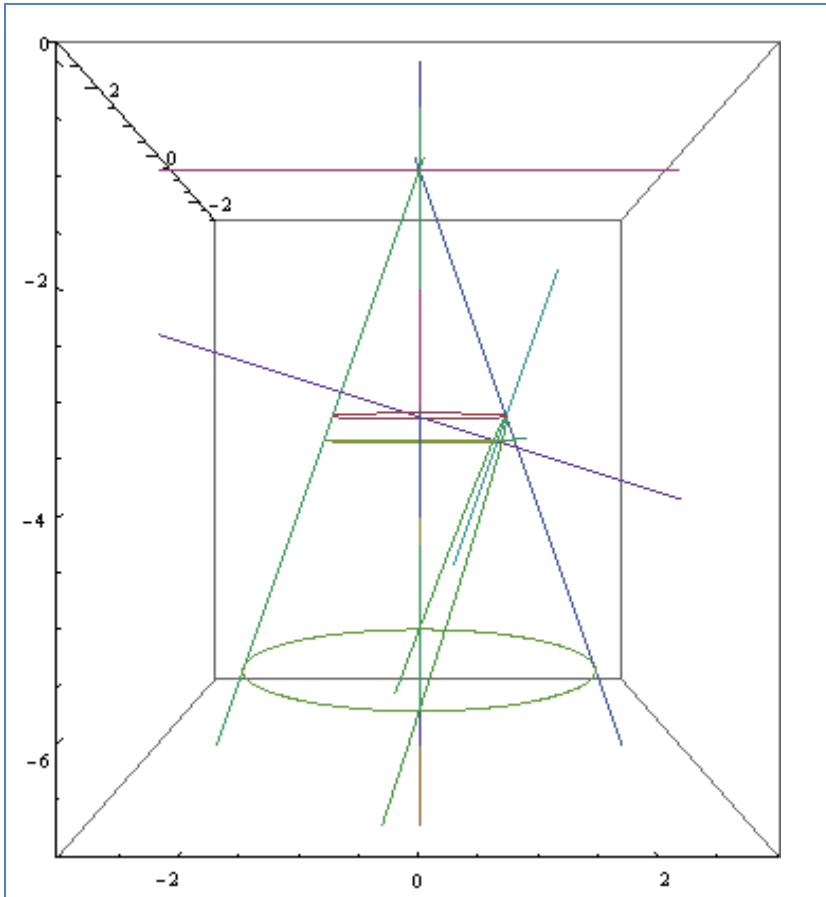
Just because my library has open doors since 2011 does not mean I am open access forever, 'lessen I croak. Lack of interest to help build secure publish legacy growing human knowledge base, is inbred prejudice against non-mentored group think. As a dear degreed schooling knowledgeable friend and Wolfram associate once told me. "If we use yours things, your ideas, we have a lot of teaching to do."

I said to him. "That's what I thought you were."

I intend to improve the items, publish them myself and 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 cash money. Material wealth or something to barter or exchange for grain for bread and a place to call home. The charge for edited re-write of my SandBox collection, including this conclusion, will be \$50US. if you are afflicted with difficulties, as I, say so, the charge will be \$25US. To the point, I publish my own journal. Thank you. AlexG

ALEXANDER; CEO SAND BOX GEOMETRY LLCCOPYRIGHT ORIGINAL GEOMETRY BY



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.

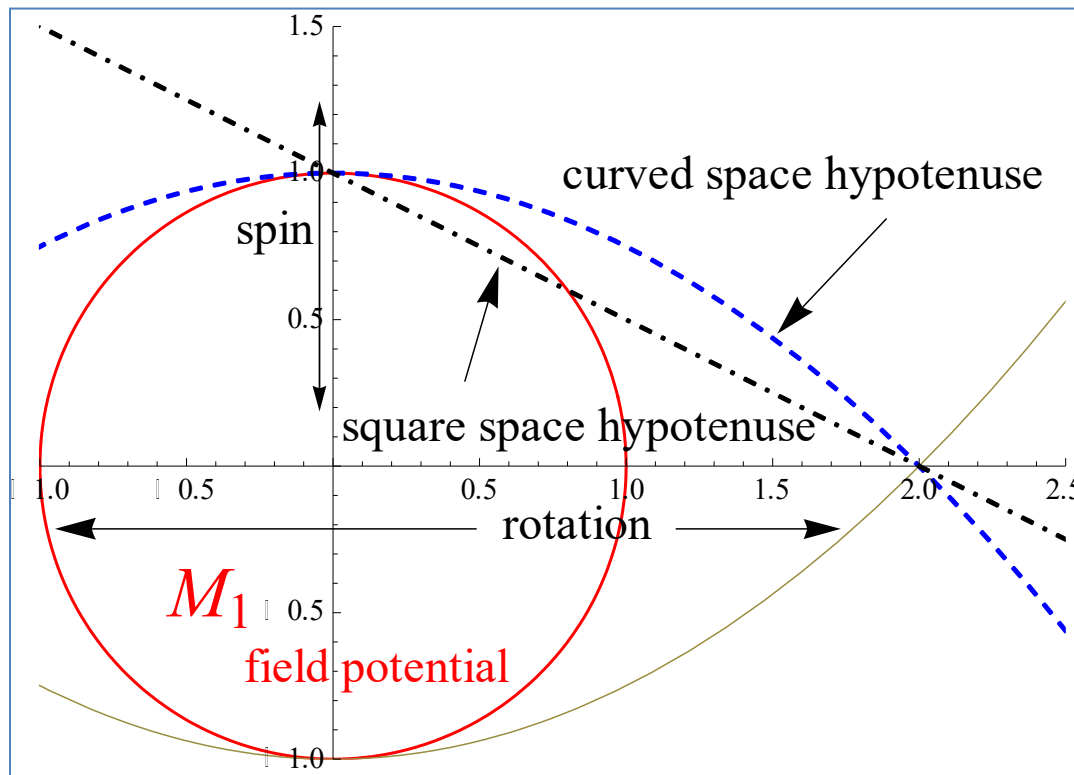
Utility of a Unit Circle and Construct Function Unit Parabola may not be used without written permission of my publishing company Sand Box Geometry LLC Alexander; CEO and copyright owner. alexander@sandboxgeometry.com

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

ALEXANDER; CEO SAND BOX GEOMETRY LLC

CAGE FREE THINKIN' FROM THE SAND BOX

The square space hypotenuse of Pythagoras is the secant connecting $(\pi/2)$ spin radius $(0, 1)$ with accretion point $(2, 0)$. I will use the curved space hypotenuse, also connecting spin radius $(\pi/2)$ 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.

ALEXANDER; CEO SAND BOX
GEOMETRY LLC