Inverse Square Parametric of Curved Space vs. Square Space
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Inverse Connections
Between Two Infinities of our Being

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I believe two separate descriptive events occur when utilizing inverse square analytics. One being linear for square space, and one being a degree(2) happening for curved space. The linear experience of square space will be the basic relative connection of radius (macro-space) and curvature (micro-space). The degree two happening for curved space is the construction of a degree(2) Mechanical Energy curve fixing its lattice rectum cord as average energy diameter, centered by M1 potential, creating M2's period time curve of Sir Isaac Newton's displacement integer on the accretion domain of (F).

Pages 12, and words 2000

Let's start with a map of Sir Isaac Newton's S\&T2. Let this map be a parametric construction of mechanical energy curves for a displacement integer(2) with respect to the spin axis of $\left(M_{1}\right)$.


Figure 1: System potential belongs to $\left(M_{1}\right)$ and period time curve is owned by $\left(M_{2}\right)$. [MA22x'overs;S\&TGfieldfalltoM!)
I use three index solution curves, as tools, to construct mechanical geography of two central force fields. These index solution tools are:

$$
\left(n^{\frac{1}{0}}, \text { reste }\right)
$$

Rest Energy: a linear parametric resultant, a connection produced and extended across two infinities, macro and micro, linking the space of both infinities. A perceived linear connection of two endpoints, not across the shortest space, but an infinite connection between curvature and radius of curvature enabling central force mechanical energy properties. These two points (fig1, points A\&B) have specific curved space coordinate registration found by SandBoxGeometry Crossover Triangle Parametrics.
$\operatorname{POINT}(A)$ : this is the lynchpin of gravity. Always found as the relative unit(1) meter of space on the central force domain. Relative unit(1), the independent parameter of Point $(A)$, is source provenance of Galileo's First Second Tile defining the experience of Uniform Surface Acceleration parameters. The dependent coordinate will be the rest energy marked on the system range axis.
$\operatorname{POINT}(B)$ : is the other endpoint of extended Infinity. Point $(A)$, also in macro space, is that part of $\left(M_{1}\right)$ potential in control of $\left(M_{2}\right)$ 's Changing Acceleration period time curve. $(B)$ carries the square root of displacement as independent term on the period time curve with the rest energy as the dependent term. This curved space coordinate arrangement:

$$
A:\left(1, \frac{t^{0}}{-2}+\frac{\text { displacement }}{2}\right) ; B:\left(\sqrt[2]{\text { displacement }}, \frac{t^{0}}{-2}+\frac{\text { displacement }}{2}\right)
$$

presents a linear/normal intercept with spin giving a range only definition of timed/period of motion for $\left(M_{2}\right)$ 's period time curve. This linear/normal arrangement is parallel with the curved space directrix operating at the north spin axis in my construction. I've used the curved space directrix for 20 years as Conservator of system energy. The curved space directrix construction controlls sustainable energy distribution for all ( $M_{1} M_{2}$ ) closed gravity field systems. The CSD does so with basic curved space arithmetic. All ( $M_{1} M_{2}$ ) energy is a conserved arrangement. System focal radii $(r, f(r))$ working the period time curve are a fixed sum of potential(1unit) and motive energy. This sum is realized/defined on the average energy diameter of ( $M_{1} M_{2}$ ) orbits.

$$
\left(n^{\frac{1}{1}}, \text { registration }\right)
$$

This index solution curve will always pass through north and south $\left(M_{1}\right)$ spin axis. the North Pole will be a negative index solution curve and the South Pole will be a positive index solution curve. These curves register $\left(M_{2}\right)$ average energy diameter placement on the domain of $\mathbf{F}$ with $\left(M_{1}\right)$ spin.

$$
\left(n^{\frac{1}{2}}, \text { potential }\right)
$$

I read mechanical action of these index solution curve happenings in the first and fourth quadrant. The first quadrant curve is a negative curve with vertex attached

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to the north spin pole. The quadrant four curve is a positive curve with vertex attached to the South spin pole. Both curves carry the potential of $\left(M_{1}\right)$ needed to control $\left(M_{2}\right)$. Both curves are planted firmly on the central force domain intercepting the abscissa identity for the square root of $\left(M_{2}\right)$ average energy diameter radius, Sir Isaac Newton's displacement term.


Figure 2: let this construction map mechanical energy of a Gfield displacement average energy curve 9units from spin.

$$
\begin{aligned}
& \left(\left(n^{\frac{1}{0}} \rightarrow \text { reste }\right) ;\left(n^{\frac{1}{1}} \rightarrow \text { registration }\right) ;\left(n^{\frac{1}{2}} \rightarrow \text { potential }\right)\right) \\
& j:\left(t, \frac{t^{0}}{-2}+\frac{n}{2}\right) \quad i:\left(t, \frac{t^{1}}{-2}+\frac{n}{2}\right) \quad f:\left(t, \frac{t^{2}}{-2}+\frac{n}{2}\right)
\end{aligned}
$$

PREMISES: Central Force Mechanical Energy Parametrics controlling Sir Isaac Newton's displacement integer(9) with respect to ( $M_{1}$ ) spin.
Index Solution Curves: rest energy $(j)$. registration( $(i)$. system potential $(f)$.
Fig(2) is from my MAA MathFest 2022 contributed poster session. I have chosen integer $(9)$ on the central force domain number line as the candidate integer to suffer inverse exponent $\left(n^{\frac{1}{2}}\right)$ and exponent $\left(n^{2}\right)$ manipulation.

In figure(2), curve ( $e$ ) is the linear record of inverse connection. A direct linear hook between a displacement space(9units) and it's micro space identity curvature (c).

Let curve ( $h$ ) be a degree two inverse square happening at displacement space(9). Curved space inverse square inquiries require a reciprocal imagery of two
dynamic endpoints to be complete. A representative end point happening in both our infinities. Reciprocal imagery is akin to the image flip of the human eye so our brain can see what is. Space inside the eye is inversed, upside down. Space outside the eye is right side up. My perception of an inverse square Gfield construction across two infinities? $\quad\left(n^{\frac{1}{2}} \leftrightarrow n^{2}\right)$.

The construction in figure(2) now becomes figure(3):
Galileo's $1^{\text {st }}$ second tile is labeled tile(1) and anchors the curvature ID (c) of displacement radius(9) within the surface acceleration curve presented by tile(\#1) @ time curve(1s). Let discovery curve $(a)$ provide $\left(M_{1}\right)$ stable Keplerian parametric requirements for displacement(9) period time curve(b).

If we should travel with increasing velocities on period time curve(b), we arrive at point $(B)$ of the crossover triangle $(A B C)$. Three index solution curves of crossover triangle $(A B C)$ provides curved space coordinates of triangle $(A B C)$.

| Point A | $\mathrm{A}=(1,4)$ | (Galileo's $1^{\text {st }}$ s tile, rest energy disp(9)) |
| :--- | :--- | :--- |
| Point B | $\mathrm{B}=(3,4)$ | $(\sqrt[2]{\text { displacement }(9)}$, rest energy disp(9) $)$ |
|  |  |  |
| Point C | $\mathrm{C}=\left(\sqrt{9}, \frac{n}{2}-\frac{\sqrt{n}}{2}\right)$ | $\left(\sqrt[2]{\text { displacement }(9)}, \frac{9}{2}-\frac{\sqrt{9}}{2}\right)$ |

I use integer (9) to demonstrate two sets of curved space connectivity using position and spin marked on the domain of our natural space. Radius and curvature, the linear happening and two dynamic endpoints. First dynamic is $\left(M_{1}\right)$ potential, a degree(2) happening, curve ( $f$ ). Dynamic end point(2) is the squaring of time curve 9 . Requiring 81 Galilean S\&T1 space-time tiles. A balanced imagery of spacetime for $\left(M_{1} M_{2}\right)$ sustainable orbit. $\left(n^{\frac{1}{2}} \leftrightarrow n^{2}\right) \stackrel{\text { and }}{\leftrightarrows}\left(9^{\frac{1}{2}} \leftrightarrow 9^{2}\right)$.
(9), a most unusual number, a curved space happening similar to the first set of consecutive rational integers forming a right triangle $(3,4,5)$. It is the only Euclidean Time Frame square space occurrence linking curvature, radius, square and square root of displacement using consecutive time; curves(1,2, and3).

$$
\text { (timecurve } 1^{2}, \text { timecurve } 2^{2}, \text { timecurve } 3^{2} \text { ). }
$$

We have the first consecutive 3 (time curves) ${ }^{2}$. Summing Galileo's relative connection of space and time. Consecutive units of time and collated unit space collected per unit of time happening.
(timecurve $1^{2}$ add 1 unitS\&T,timecurve $2^{2}$ add 3unitsS\&T, timecurve $3^{2}+5$ unitsS\&T)
Galileo's first second tile will always hold curvature evaluation of any square space displacement from $\left(M_{1}\right)$. As well as domain parameters for one second of time and space experience in that specific field.

Let average energy curves have a proclivity of transfer. $\left(M_{1} M_{2}\right)$ mechanical energy transfer will happen between consecutive orbit displacements using the legs of a crossover as a parametric map.


Figure 3: curved space connections with square space. link(h) and link(e)

Let $(A B)$ connect period time curve motion (curveb) with $\left(M_{1}\right)$ spin. Let greater orbit ( $n_{1}$ ) be active period time curve. Then orbit $\left(n_{1}\right)$ will fall to $\left(n_{2}\right)$ by dropping ( $1 / 2$ ) unit range on spin of $\left(M_{1}\right)$ falling with rest energy $(j)$. When $\left(n_{1}\right)$ falls to ( $n_{2}$ ) via ( $1 / 2$ ) unit range on spin of $\left(M_{1}\right)$, this action acquires increased mechanical energy from orbit ( $n_{1}$ ) adding energy onto period time curve of $\left(n_{2}\right)$. This additional energy, found by advancing on the period time curve of orbit ( $n_{1}$ ), is added to average energy/diameter curve of orbit ( $n_{2}$ ) orbit integer(8) and can be used to escape ( $n_{2}$ ), via capture or fall, directly to the next average energy curve of $\left(M_{1}\right)$;

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$$
\begin{gathered}
\operatorname{disp}(9) \rightarrow \operatorname{disp}(8) \rightarrow \operatorname{disp}(7) . \\
\left(\left(9^{\frac{1}{0}}, \text { reste }\right) ;\left(9^{\frac{1}{1}}, \text { registration }\right) ;\left(9^{\frac{1}{2}}, \text { potential }\right)\right) \\
\left(j:\left(t, \frac{t^{0}}{-2}+\frac{9}{2}\right), i:\left(t, \frac{t^{1}}{-2}+\frac{9}{2}\right), f:\left(t, \frac{t^{2}}{-2}+\frac{9}{2}\right)\right)
\end{gathered}
$$

In Figure(5), curve $(f)$ is the potential needed by time curve $\left(3^{2}\right)$ to move to spacetime displacement(9), nine units from spin, on the domain of $\mathbf{F}$. For displacement(9) we have curvature inverse connect curve (e) and inverse square potential curve $(h)$.


Figure 4: energy abacus. number of tiles needed to move from uniform surface acceleration to orbit acceleration properties.

To acquire that place in a Euclidean SpaceTime Frame, requires (81tiles) or time curve $\left(9^{2}\right)$.

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Figure 5: figure(4) expanded to 81 tiles completing inverse square connection from square space to curved space.

Figure(4) is a curved space construction using crossover triangle $(A B C)$ of displacement(9) as a perception model of two inverse properties of Central Force Fields. A onetime display of $\left(n^{\frac{1}{2}} \leftrightarrow n^{2}\right) \leftrightarrow\left(\frac{1}{n} \leftrightarrow n\right)$ working together. I know of no other displacement radii that can do so.
(e) is the (square space) linear connection between displacement(9) and its curvature value locked in tile one, curve (c). (h) is the curved space connection between $\left(9^{2}\right)$ and $(\sqrt{9})$.

The three index solution curves: ( $j$ ) being rest energy of displacement(9); (i) being linear registration of displacement(9) with central force spin, and $(f)$ is the system degree(2) potential curve. The transition crossover triangle $(A B C)$ is inexorably connected with the dynamics of displacement(9).

We have $(A)$, linking the first second tile of Galileo with $(B)$ as the abscissa $(\sqrt{9})$ and ordinate rest energy of displacement(9). (B) is the closed circuit between potential and motion energy on the period time curve of $\left(M_{2}\right)$. And we have $(C)$;

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$(\sqrt{9})$ and the ordinate linking registration and potential to aquire sustainable parametrics for an $\left(M_{1} M_{2}\right)$ system.

The Beatles were right. (\#9 \#9 \#9...). I say the natural \#9 is the perfect number chosen by Nature, able to demonstrate inverse square Gfield connect as I imagine it to be. There is no other number in human imagination can do so.

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...or is there?

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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. Armed with these as weapon and shield, I go hunting Curved Space Parametric Geometry.

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## 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 $\mathbf{N}$ pole and one at the $\mathbf{S}$ pole of spin: just as a bar magnet. When exploring changing acceleration energy curves of $\mathrm{M}_{2}$ orbits, we will use the N curve as our planet group approaches high energy perihelion on the north time/energy curve.

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The foundation of human mathematics is geometry. If one would take some time to look at the written works (they happen to be library available) of Newton, Kepler, and the time-tested Conic Treatise of Apollonius, you will be face-to-face with the stick art of human mathematics. However, unlike art, freedom of interpretation (STEAM..., history, cultures, and statues, concrete and legal) is NOT invited. Only a single path of rigorous logic leading to an irrefutable conclusion is proffered. Proofing still rules today, as the only way to structure an argument advancing human imagination to the next level.

For me, it is not important to understand the proofing used with exploratory Philosophical Geometry of the Masters for this can be as difficult to fathom as a triple integral proof, simply witness the incisive descriptive language, explaining methods used by these great geometers of our past, Huygens, Newton, and Kepler, to name a few, as they ponder Questions of Natural Phenomena of Being using descriptive mathematical relations between lines and curves with the unique irrefutable perspective of picture perfect Classic Geometry. Geometry after-all, is one tongue spoken, written, and understood by all humans.

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