Reading from the SandBox

Thursday, April 22, 2021. 01:31

(POSITION AND POSITION ENERGY)

Exploring analytics of two-time connected variables motivating construction of Gfield mechanical energy curves. How much time and how much space experienced with 1st unit time?

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Methods of construction for Galileo's S&T1	April 22 2021

We need a standard model to construct (position&position energy) analytics of two-time connected variables defining lines and curves for Galileo's S&T1. The variable are time and space. The platform; Euclidean Geometry elementary square. The coordinate system; Descartes.

1st second central force free fall space time square

S&T1 monograph, 6 pages; 1000 words

4/20/2021

S&T1 Space&Time Square (a, b, c, d) is a dedicated model for central force G-field free fall phenomena. If we let this space-time square be congruent with the space-time experience of our planet earth; a 1 second time *ordinate* event, to be a perfect square for earth's mass/volume mix, will require a $(16f)\ or\ (4.9m)$ *abscissa*. We now know acceleration curvature of curve (c); for Earth we have $\left(\frac{1}{16}\right)\ or\ \left(\frac{1}{4.9}\right)$.

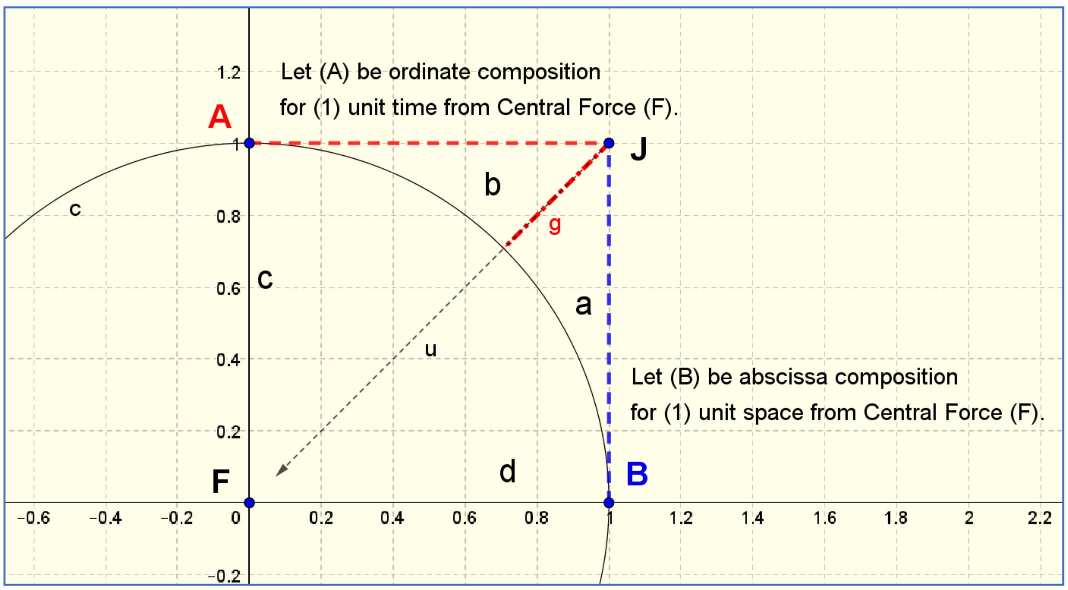

Figure 1: a standard model for Central Force G-field free fall.

SPACE AND TIME SQUARE FOR FALLING (CONSTANT ACCELERATION). FINDING POINT MASS ACCELERATION CURVATURE OF GFIELD POTENTIAL

Let vector $(\boldsymbol{u})$ be 1 second accelerating free fall to *surface* curve of **F** in any gravity field. $\left((g) of (\boldsymbol{u})\right)^{-1}$ will equal acceleration curvature of point mass **F**.

GEOGRAPHY of GALILEO'S S&T1 CONSTANT ACCELERATION SPACE TIME SQUARE

A note on code in effort for clarity. Small (c) is surface acceleration curve of (**F**).

S&T1 Space&Time Square $(\mathbf{a}, \mathbf{b}, \mathbf{c}, \mathbf{d})$ is a dedicated model for central force G-field free fall phenomena.

Let curve (c) be surface acceleration for any (M_1) central force (**F**).

Let (J) be a point in space 1 second above surface acceleration curve (c).

Let (g) be 1 second free fall to surface curve of (**F**).

Let vector (u) be normal with surface tangent constructed below (J) on (c). Vector (u) is a Frenet acceleration vector pointing to system center, line of free fall for (J).

Vector (**u**) requires separation energy from surface acceleration curve of (**F**) to reach (J) @ 1sec free fall space above surface curve of **F**. Energy Tangent (AJ) is reclamation time $(1s)$ ordinate side of S&T 1 spacetime square. Energy Tangent (JB) is the abscissa reclamation tangent surrendering all separation energy required for location on space curves back to surface acceleration curve of **F**.

Let (AJ) be reclamation *time* tangent for freefall space.

Let (JB) be reclamation *space* tangent for freefall time.

Cartesian Coordinates used to study my S&T central force space time squares are compound units of space and time with fixed corresponding relativity. One (part time) to one (part space) correspondence. Energy tangents composing a space time square acceleration experience require congruent units of space time experience to provide (square space) Euclidean analytics.

Unless acted upon by outside forces, acceleration vector (u) will target central force **F** splitting space and time square $(\mathbf{a}, \mathbf{b}, \mathbf{c}, \mathbf{d})$ in half. Half the square will be time possessed and half the square will be space.

My next construction will used curves defining acceleration experience of (J) to split Galileo's S&T1 in two, one part for time and one part for space.

Construct a space curve (e) through (J) having equivalent acceleration experience everywhere with respect to surface acceleration curve (c).

Curve (e) is a curved space acceleration force (experience). Curve (e)

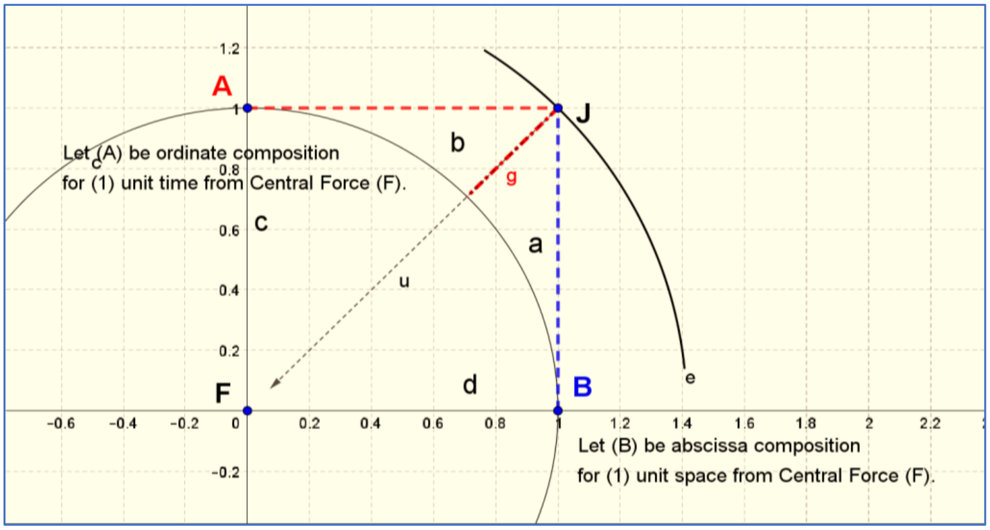

Figure 2: S&T1 with an acceleration curve constructed through (J).

passes through (J) as a S&T square Euclidean relative $(\sqrt{2})$ central force radius. Since all sides of a perfect square are equivalent; such diagonals are $(side(s)\sqrt{2})$. Since our displacement radius is $(\sqrt{2})$ we can determine curvature valuation for this acceleration space curve.

Acceleration curves in central force curved space are spherical and possess the same surface experience in space with respect to displacement from center $(\mathbf{F})$.

Finding curvature for point (J) on such a spherical experience invert the displacement radius.

$$[(\sqrt{2.})^{-1} = 0.707107]$$

The acceleration curvature evaluation is a number only, but a trigonometry number. It happens twice defining abscissa and ordinates of a unit square constructed with a $(\sqrt{2})$ diagonal. This number is the cosine and sine evaluation for 45°.

$$[0.707107 * \sqrt{2} = 1]$$

This multiplication operation defines abscissa side of one-unit space as co-composition of one-unit ordinate time of Galileo's S&T1.

QED: ALΣXANDΣR; CEO SAND BOX GEOMETRY LLC

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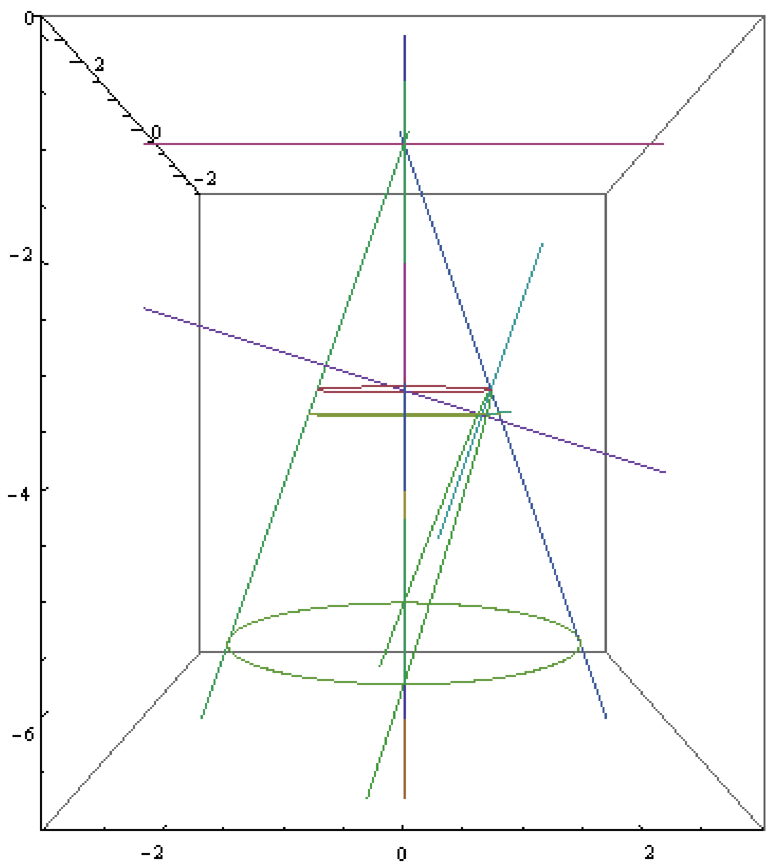
Using computer parametric geometry code to construct the focus of an Apollonian parabola section within a right cone.



"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.

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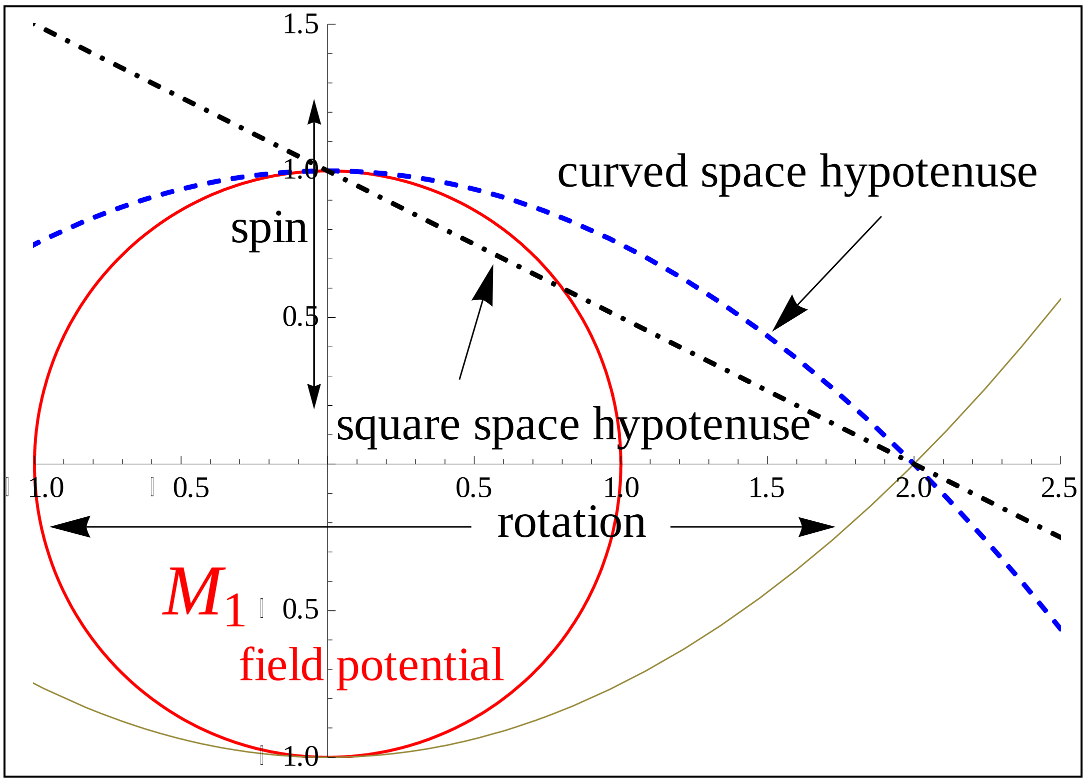
CAGE FREE THINKIN' FROM THE SAND BOX

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.

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