Reading from the SandBox

Friday, October 23, 2020 22:29

On decay and stability of G-field orbits.
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## Planet level orbit decay <br> October 23 <br> 2020

By changing limit parameters of a stable orbit, I intend to utilize S\&T1 to construct and analyze stabikity and decay of G-field Central force Orbits.

G-field central force stability, escape and fall of M2.

Pages: 10 words: 1600

## INTENTIONS:

The oldest explanation of an orbit would be Sir Isaac Newton's 'canon ball'. The velocity of such a projectile would be such that for each second free fall in earths G-field, projectile velocity would be sufficient to carry said projectile back to initial height above surface curve Earth.

Great mental picture but this can't work! Failure to imply return energy to the higher-level orbit means the projectile falls to earth. All stable orbits have three parameters.

- HIGH ENERGY
- AVERAGE ENERGY
- LOW ENERGY

The reason a planet works where a projectile can't, would be the high energy part of orbit parameters. As a planet swings into a high energy pass by of $M_{1}$, the first derivative unit velocity vector is so strong the orbit energy tangent is destroyed and points to escape only to burn off escape velocity in approach to low energy orbit limit and falls again, to repeat the perpetual cycle of escape and fall.

I have developed parametric geometry constructions of G-field orbits. Principal CSDA is the standard model construction of all $\mathrm{M}_{1} \mathrm{M}_{2}$ stable system energy curves. Orbit, torque, acceleration, potential, and motive energy of $\mathrm{M}_{2}$, all are parameterized. My blog has many explanatories and I will not cover methods here. Here I want to consider orbit decay as entropy of thermodynamics.

My talk on 'Bonding...' at WTC Virtual; Oct. 7, 2020 covered, not decay, of nuclear assemblies of Period Elements, but transition of perception. I use a CSDA Space and Time Square2 (S\&T2) to study quantum small and S\&T1 CSDA to study Classic Big. In the talk, I used S\&T2 to philosophize nuclear comfort zones and temperature abuse.

## BACK TO S\&T1

I begin with stability. A standard model G-field central force CSDA. Each construction protocol is provided. After stability I offer two more constructions. I
alter limiting parameters of orbit energy, high energy end point and low energy end point. I link constructions by providing a period time curve connecting S\&T1 center with a zero slope second degree vertex on spin axis of $\mathrm{M}_{1}$. All constructions are dynamic and carry a URL link to my GeoGebra account where specific dynamics can be viewed.

## VIEWING and READING

I reserve, as always, intellectual right to correction and self-editing, as nowhere in our $21^{\text {st }}$ century world has anyone offered suggestions, negative or negative. never expected positive!

1. $\mathrm{M}_{2}$ orbit energy curves have shape, and require contact with system curved space directrix and $\mathrm{M}_{1}$ potential to be stable.
2. Decay constructions can not pass unit boundary of $M_{1}$ surface acceleration curves.

This is a very specific rule! To pass into the unit boundary of $M_{1}$ surface acceleration curvature brings us to nuclear CSDA S\&T2; the quantum small. Constructing a displaced period time curve, 0 slope at spin axis and passing through displaced S\&T1 center demonstrates collapse into the potential of mass/volume collective. Period time curve registration of congruent energy events require vertex placement at ( $\frac{\pi}{2}$ directionspinradius) and connection of S\&T1 center with CSDA system accretion and spin. Decay construction of $\mathrm{M}_{1} \mathrm{M}_{2}$ S\&T1 orbit parameters fall below accretion destroying this registration making orbit sustainability unattainable.
3. Period time curve limits falls outside S\&T1 linear (position, position energy) boundaries. The time curve vertex climbs the spin axis leaving the curved space spin vertex of $\mathrm{M}_{1}$ thereby 'freeing' range of $\mathrm{M}_{2}$ motion, releasing the shackles of accretion.

## STABILITY



Figure 1: basic standard model CSDA construction of M1M2 central force G-field energy exchange. Orbit registration parameters, central force F, spin, curved space directrix, S\&T1 center, displacement radius and displacement energy connect accretion phenomena of system wit $\mathbf{F}$.

## Standard model

## Alexander

| No. | Name | Description | Value | Caption |
| :---: | :---: | :---: | :---: | :---: |
| 1 | Curve a | Curve $(\cos (\mathrm{t}), \sin (\mathrm{t}), \mathrm{t},-4,4)$ | $\mathrm{M}_{1}$ potential |  |
| 2 |  |  |  |  |
| 3 | Curve e | Curve(t, $\left.\mathrm{t}^{2} /-4+1, \mathrm{t},-0.5,2.5\right)$ | $\mathrm{M}_{2}$ motive period time curve |  |
| 4 | Curve g | Curve(1.5, t, t, -0.56, 0.44) | $\mathrm{g}:(1.5, \mathrm{t}) \mathrm{S} \mathrm{\& T} 1$ |  |
| 5 | Curve h | Curve( $2.5, \mathrm{t}, \mathrm{t},-0.56,0.44$ ) | $\mathrm{h}:(2.5, \mathrm{t}) \mathrm{S} \mathrm{\& T1}$ |  |
| 6 | Curve i | Curve(t, -0.56, t, 1.5, 2.5) | i:(t, -0.56) S\&T1 |  |
| 7 | Curve j | Curve(t, 0.44, t, 1.5, 2.5) | j:(t, 0.44) S\&T1 |  |
| 8 | Curve r | $\begin{aligned} & \operatorname{Curve}(0.56 \cos (\mathrm{t})+1.5,0.56 \sin (\mathrm{t})+ \\ & 0.44, \mathrm{t},-4,4) \end{aligned}$ | High energy limit |  |
| 9 |  |  |  |  |


$\left.$|  |  |  | Curve $(1.56 \cos (\mathrm{t})+2.5,1.56 \sin (\mathrm{t})-$ <br> 0.56 | Low energy limit |
| :--- | :--- | :--- | :--- | :--- |$\quad \right\rvert\,$

Created with GeoGebra
https://www.geogebra.org/m/ujaj6q65

## ORBIT CONTACT WITH ACCELERATION CURVATURE M 1



Figure 2: high energy side S\&T1 is captured by M1 surface acceleration curve. S\&T1 center and parameters fall below accretion.

## $1^{\text {st }}$ decay; contact M1 acceleration curve.

## Alexander

| No. | Name | Description | Value | Caption |
| :--- | :--- | :--- | :--- | :--- |
| 1 | Curve a | Curve $(\cos (\mathrm{t}), \sin (\mathrm{t}), \mathrm{t},-4$, | (4) |  |


| 9 | Curve i | $\begin{aligned} & \text { Curve( } \mathrm{t}, \mathrm{t}^{2} /-4+3 / 4, \mathrm{t},- \\ & 0.5,3.25) \end{aligned}$ | Displace period time curve; 0 slope @spin, slope1 @ S\&T1 center. |  |
| :---: | :---: | :---: | :---: | :---: |
| 10 | $\begin{aligned} & \text { Number } \\ & \text { j } \end{aligned}$ | Pt A corrupt displacement radius below accretion | $j=2.13$ |  |
| 11 | Point A | (j, -1/4) | $\mathrm{A}=(2.13,-0.25)$ |  |
| 12 | $\begin{aligned} & \text { Number } \\ & \mathrm{k} \end{aligned}$ | $\mathrm{M}_{2}$ motive energy on displace period time curve | $\mathrm{k}=2.13$ |  |
| 13 | Point B | i(k) | $\mathrm{B}=(2.13,-0.38)$ |  |
| 14 |  |  |  |  |
| 15 | Point C | Center S\&T1 | $\mathrm{C}=(2,-0.25)$ |  |

## Created with GeoGebra

## orbi collapse



Alexander

| No. | Name | Description | Value | Caption |
| :---: | :---: | :---: | :---: | :---: |
| 1 | Curve a | Curve ( $\cos (t), \sin (\mathrm{t}), \mathrm{t},-4,4)$ | $\mathrm{M}_{1}$ potential |  |
| 2 | Curve d | Curve(1.5, t, t, -1.88, 1.13) | $\mathrm{d}:(1.5, \mathrm{t})$ |  |
| 3 | Curve e | Curve(4.5, t, t, -1.88, 1.13) | $\mathrm{e}:(4.5, \mathrm{t})$ |  |
| 4 | Curve f | Curve(t, 1.13, t, 1.5, 4.5) | f:(t, 1.13) |  |
| 5 | Curve g | Curve(t, -1.88, $\mathrm{t}, 1.5,4.5)$ | $\mathrm{g}:(\mathrm{t},-1.88)$ |  |
| 6 | Curve b | Curve(t, $\left.\mathrm{t}^{2} /-4+1, \mathrm{t},-0.6,5\right)$ | $\mathrm{M}_{2}$ motive period time curve |  |
| 7 | Curve h | Curve( $\left.\mathrm{t}, \mathrm{t}^{2} /-4+1.88, \mathrm{t},-0.5,4.5\right)$ | Displaced period time curve |  |
| 8 | Curve i | $\text { Curve }(\cos (\mathrm{t})+3, \sin (\mathrm{t})-0.38, \mathrm{t},-4,$ <br> 4) | Potential doppelganger |  |
| 9 | Point B | Period time curve limit | $\mathrm{B}=(1.5,1.13)$ |  |
| 10 | Point C | Period time curve limit | $\mathrm{C}=(4.5,-1.88)$ |  |
| 11 | Curve c | $\begin{aligned} & \text { Curve }(0.88 \cos (\mathrm{t})+1.5,0.88 \sin (\mathrm{t})+ \\ & 1.13, \mathrm{t},-4,4) \end{aligned}$ | high energy limit |  |
| 12 | Curve j | $\begin{aligned} & \text { Curve }(3.88 \cos (\mathrm{t})+4.5,3.88 \sin (\mathrm{t})- \\ & 1.88, \mathrm{t},-4,4) \end{aligned}$ | Low energy limit |  |
| 13 | Number k | Displaced radius below accretion | $\mathrm{k}=1.99$ |  |
| 14 | Point A | (k, -0.38) | $\mathrm{A}=(1.99,-0.38)$ |  |
| 15 | Number 1 | Displaced energy on displaced time curve | $1=1.99$ |  |
| 16 | Point D | h(k) | $\mathrm{D}=(1.99,0.88)$ |  |
| 17 | Point E | Center corrupt S\&T1 | $\mathrm{E}=(3,-0.38)$ |  |
| 18 | Curve m | Curve(t, 1, t, 2.5, 5) | curved space directrix |  |

Created with GeoGebra

## https://www.geogebra.org/m/wpaqs8ty

ALIXANDER; CEO SAND BOX GEOMETRY LLC COPYRIGHT 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.

ALIXANDER; 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 $\mathbf{N}$ 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.

ALIXANDER; CEO SAND BOX GEOMETRY LLC (anybody out there?)

