A Sand Box Geometry Short Dissertation on permitted limits of nuclear (space) existence prompted by binding energy curve linking electron cloud parametric geometry of an element with its nucleus.

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Where is limits of nucleus space boundary	April 17, 2022

The binding energy of the electron cloud and the Z# nucleus has limiting existence parameters. A range and domain limit of element construction with respect to required space for ecloud and required space of element nucleus.	A space for Z#. A curve fit energies construction.

A sandbox exploratory: Sunday, April 17, 2022. 02:08.

Dedicated to Coptic Christians of Easter Week five ago.

3/22/22 <u>00:08</u>

This is nuclear level G-hook. An attempt to understand accretion. The element is helium. Both nuclear and gravity **CSDA** dependent curves are present (b, d).

This is the nuclear independent curve $(a, r = 2units\ space)$, G-field independent is always the unit circle $(r = 1unit\ space)$. Gfield **CSDA** unit is $(\frac{magnitude}{2})$; one part $(micro\ infinite)$ space and one part $(macro\ infinite)$ space. The nuclear independent curve defining the element electron cloud, changes 'weight' of element by using Z#.

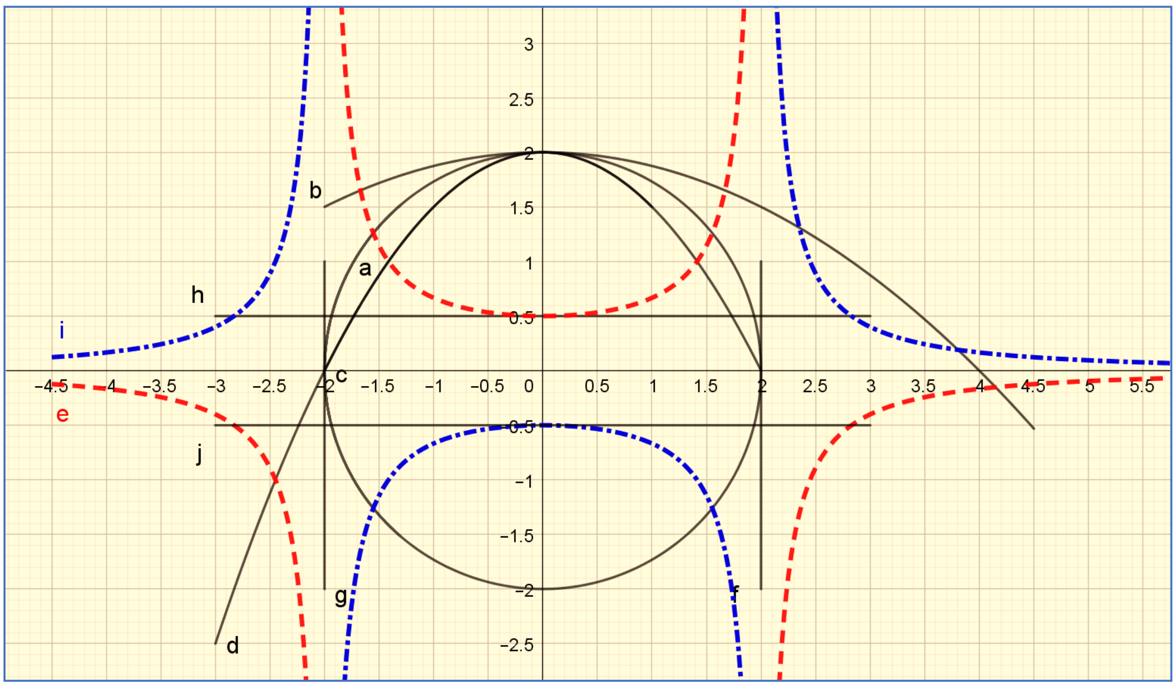

Figure 1: CSDA nuclear parametric of ecurves, He Z# is 2.

Note He Z# is a 2unit space $(2r)$. Dependent nuclear **CSDA** is $\left(\frac{t^2}{-2} + 2\right)$ having vertex at $\left(\frac{\pi}{2}\right)$ spin rasius and feet planted firmly on ecloud rotation domain. Root solution curve vertex at $\left(\frac{\pi}{2}\right)$ spin radius with legs planted firmly on domain rotation.

More to come study of S&T3.

Need construct Li, Z#3, our cell phone, and small screen energy source.

Li Z#3 (G2G, screen record, opening LP's)

let curve (b) be gravity hook for Li Z#3. Let (a) be nuclear independent **CSDA**, electron cloud Li. Let curve (g) be inverse of $(\sqrt[2]{6})$ curve. (h) is limiting intrusion curve separating physical space from mechanical energy of nuclear assembly. Between rotation plane of ecloud and curvature limit of e cloud will be the occupation zone of nucleus.

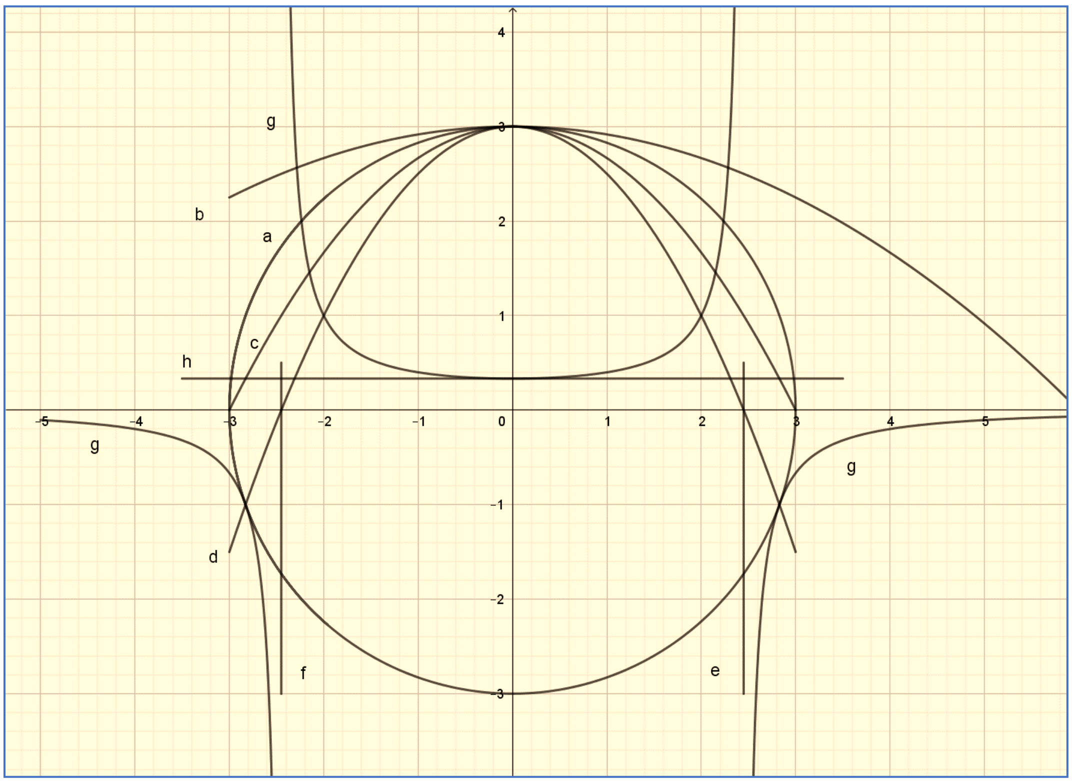

Figure 2: significant curves of Li Z#3. electron cloud (a), dependent **CSDA** of ecloud (c), $\sqrt[2]{6}$ (d) , inv $\sqrt[2]{6}$ (h , providing curvature $\sqrt[2]{6}$ (h) of curvature limit sourced as ecloud curvature value..

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No.	Name	Description	Value	Caption
1	Curve a	Curve(3cos(t), 3sin(t), t, -4, 4)	a:(3cos(t), 3sin(t))	(crv a) ecloud
2	Curve c	Curve(t, t² / -3 + 3, t, -3, 3)	c:(t, t² / -3 + 3)	(crv c) Dependent G-CSDA abscissa $(\sqrt[2]{6})$

3	Curve b	Curve(t, t^2 / -12 + 3, t, -3, 6.5)	b:(t, t^2 / -12 + 3)	(crv b) Ghook 6units space
4	Curve d	Curve(t, t^2 / -2 + 3, t, -3, 3)	d:(t, t^2 / -2 + 3)	(crv d) curved space $\left(\sqrt[2]{6}\right)$
5	Curve g	Curve(t, $(t^2 / -2 + 3)^{-1}$, t, -5, 9)	g:(t, $(t^2 / -2 + 3)^{-1}$)	Curve (g) 3parts: $\left(\sqrt[2]{6}\right)^{-1}$
6	Curve e	Curve(sqrt(6), t, t, -3, 0.5)	e:(2.45, t)	sq space abscissa $\left(\sqrt[2]{6}\right)$
7	Curve f	Curve(-sqrt(6), t, t, -3, 0.5)	f:(-2.45, t)	sq space abscissa $\left(\sqrt[2]{6}\right)$
8	Curve h	Curve(t, 3^{-1}, t, -3.5, 3.5)	h:(t, 0.33)	κ of electron cloud $(Z\#)^{-1}$

Created with GeoGebra

To construct permitted space for nucleus of (He): is to construct curved space $\left(\sqrt[2]{6}\right)$ of (He) Ghook, curve (d).

Note intercept of curved space $\left(\sqrt[2]{6}\right)$ with square space abscissa definition $\left(\sqrt[2]{6}\right)$ on the ecloud rotation plane (domain of construction).

Square space abscissa ID serves as asymptotes for the curved space solution $\left(\sqrt[2]{6}\right)^{-1}$curve $(g, 3\ parts)$.

Next construct $(\pm\kappa, ecloud\ curvature\ value)$ as range limits for nucleus of element.

Between asymptotes of curved space solution curve inversed $\left(t, \frac{t^2}{\mp 2} \pm \frac{6}{2}\right)^{-1}$ and curvature value for electron cloud we find permitted limits of He nucleus.

QED: ALΣXANDΣR; CEO SAND BOX GEOMETRY LLC

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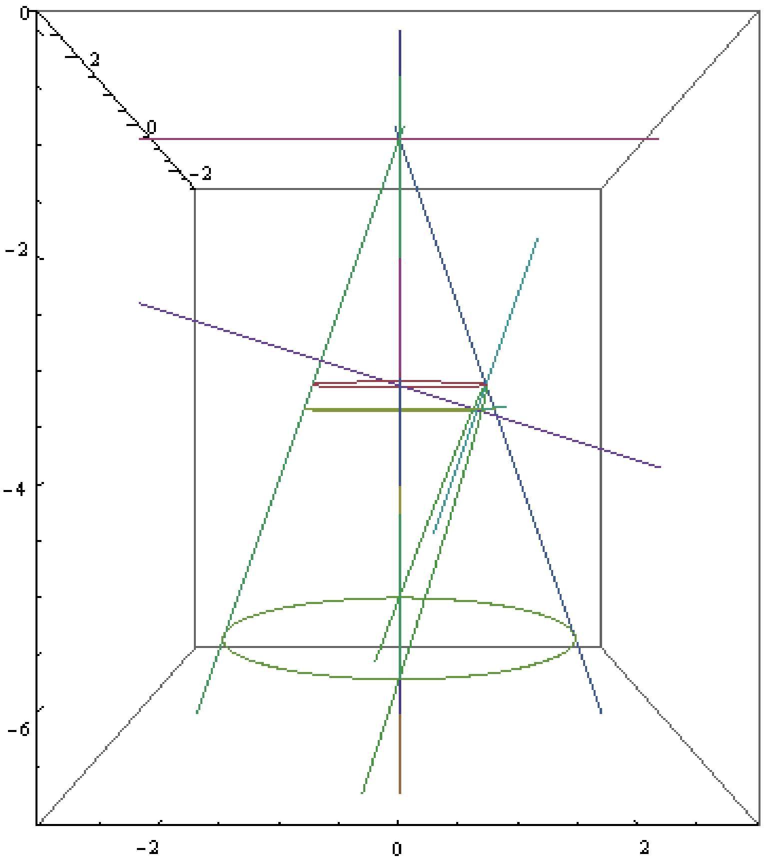
Sand Box Geometry LLC, a company dedicated to utility of Ancient Greek Geometry in pursuing exploration and discovery of Central Force Field Curves.



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

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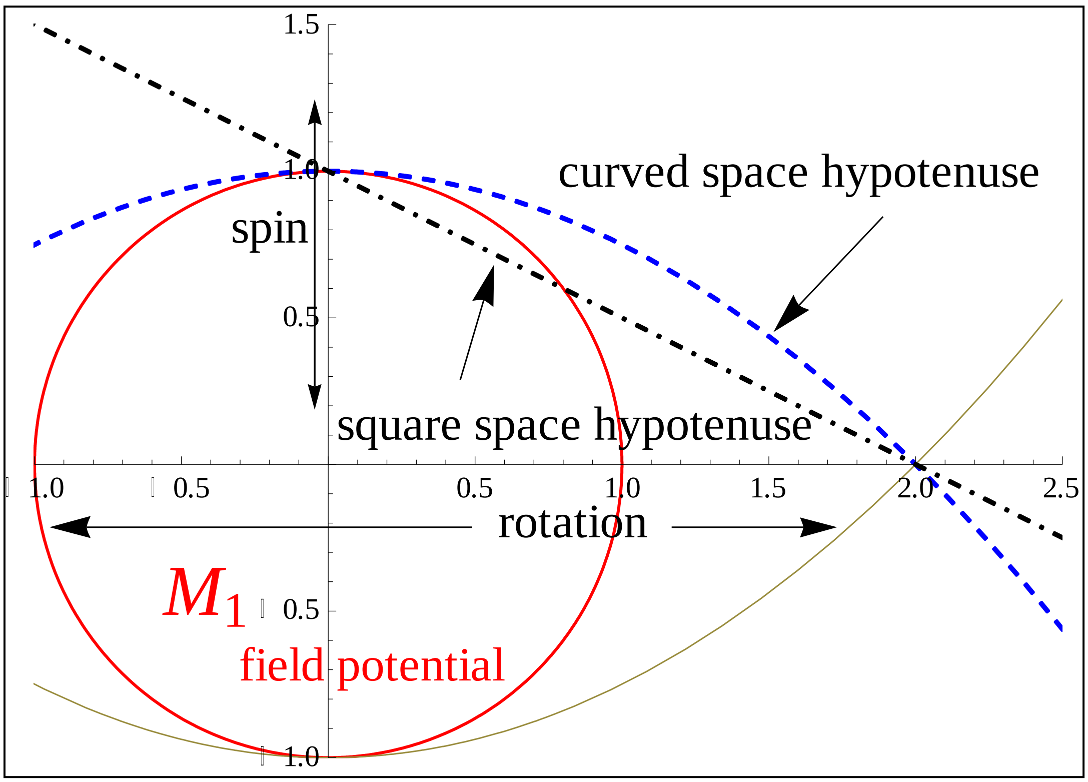
CAGE FREE THINKIN' FROM THE SAND BOX

The square space hypotenuse of Pythagoras is the secant connecting (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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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 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 math to the next level.

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, Geometry is one tongue spoken and written by all humans, 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 using descriptive mathematical relations between lines and curves with the unique irrefutable perspective of picture perfect Classic Geometry.