January 1, 2020

From my nuclear parametric geometry.

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Nuclear CSDA

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Preliminary analytic geometric construction protocol

Construction of first 10 Z# elements, population is three atoms at ISM temperature 3deg K

Sand Box Geometry and proposed constructions for Strong Force nuclear energy curves

Location record: (11/19/2017) DVD, library talks, 9.28.2019 (roots)

This article represents principal update to the 2010 writing on nuclear energy curves.

- As of 2016, only the first ten elements are really considered, the most important of these to me, would be H, He, C, and O.
- Standard model is unit circle. As electron cloud surrounding nuclear center with internal unit parabola as atom binding energy curve.
- Only period element of atom is considered, in other words no ionic assembly.
- Only the strong force philosophical energy curves shaping element nucleus; keeping nuclear center together is considered stable balanced central force constructed.
- All three conics of Apollonius are used.

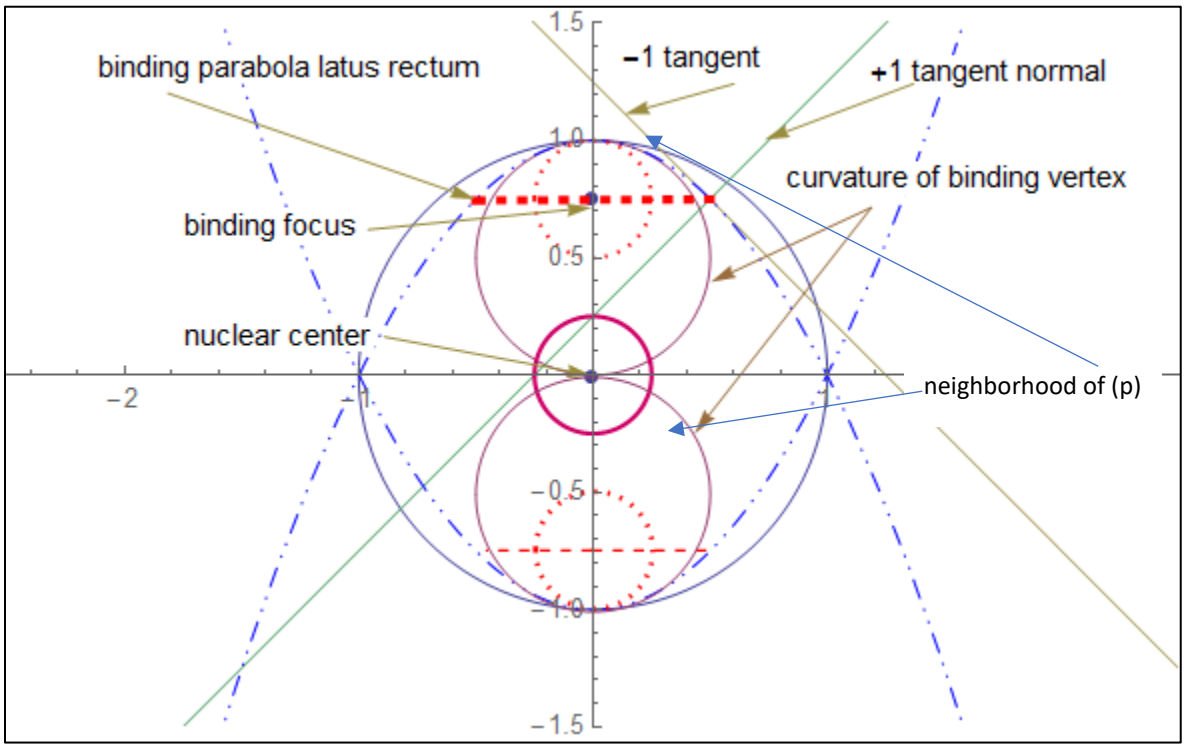

Figure 1: Basic nuclear central force CSDA. This type CSDA meters quantum mechanical thermodynamics heat energy required for perceived transition of state.

Beginning:

Let the center spherical profile curve be the electron cloud of an atom. The encompassing outer spherical profile curve represents nuclear level compression ring as additional energy curves, needed to hold the whole atom assembly together.

This is my proposed (unity) model for an atom. I use a **CSDA** unit circle as the electron cloud. Element Z# is unit radii shaping ecloud.

At the N spin axis, we see three open curves. A macroscopic Gfield unit parabola intercepting rotation number line @ ±2, an internal microscopic parabola ecurve (energy curve) intercepting rotation number line @±1, and a N branch of a hyperbola curve.

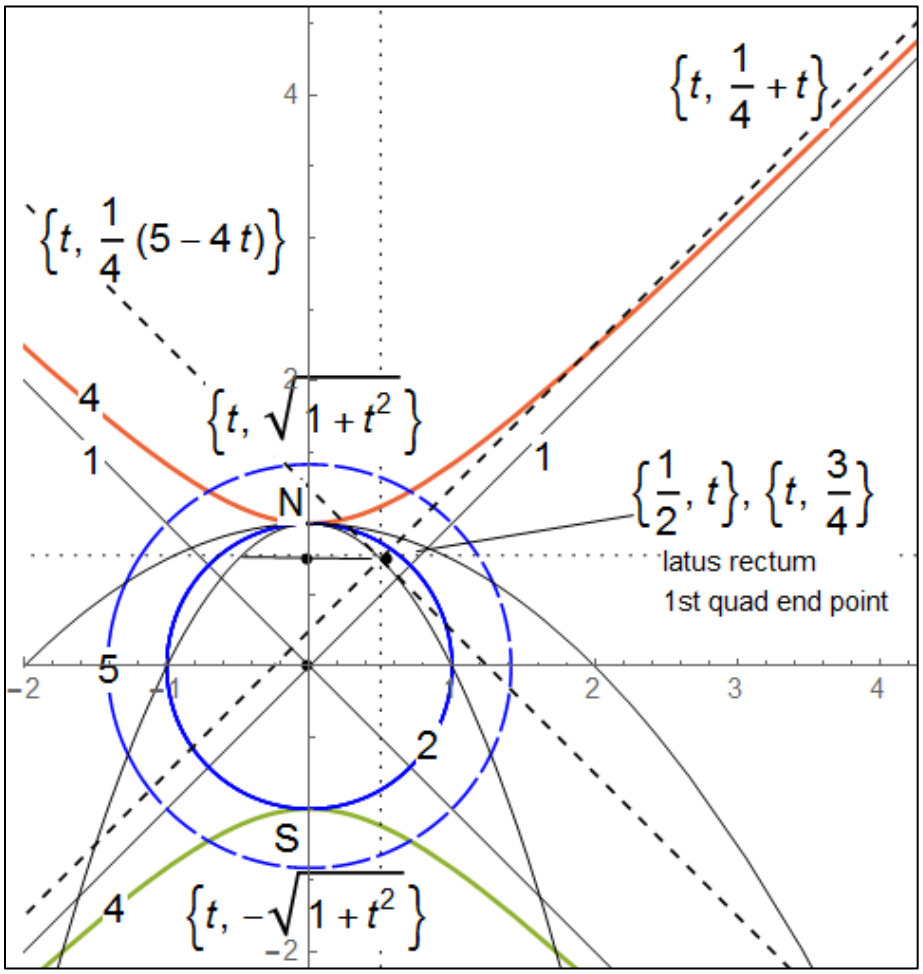

Figure 2: Basic Sand Box Geometry Standard Model of Atom.

I use the hyperbola because of its split focus. By placing each branch at the N and S spin axis of the electron cloud I can use foci location to map a $\left(\pm\sqrt{n^2+t^2}\right)$, where (n = Z#), to construct a compression ring around the whole atom to keep it (electron cloud and nuclear center) together.

This is a standard model so symmetry requires all curves and lines be replicated with respect to (0, 0) home of central force **F**. I use the **N** part of the

construction to explore possible plane geometry means to construct curves and lines composing nuclear bonding.

Also, in the **N** part of the electron cloud spherical profile we have constructed the eparabola curve latus rectum with endpoints $\{\frac{1}{2}, t\}, \{t, \frac{3}{4}\}$. Setting location for the ecurve tangent and tangent normal, $\{t, \frac{1}{4} + t\}, \{t, \frac{1}{4}(5 - 4t)\}$. The parabola ecurve tangent normal has significant relative arrangement with the positive asymptote of shaping hyperbola $\left(t, \sqrt{1 + t^2}\right)$. The rest of the construction and analytic methods are as follows. This first energy map is about atom #1 as the next construction will look at a possible electromagnetic bonding plane with atom #2.

A nuclear GeoGebra dynamic Latent Heat Thermometer demonstration:

https://www.geogebra.org/u/apollonius

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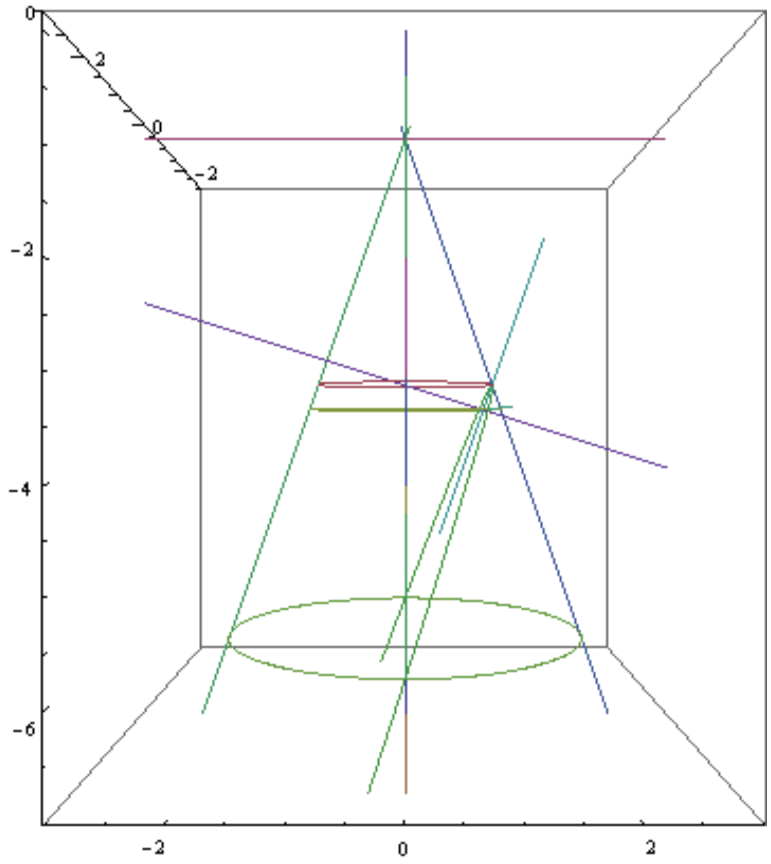
Sand Box Geometry LLC, a company dedicated to utility of Ancient Greek Geometry in pursuing exploration and discovery of Central Force Field Curves.

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.

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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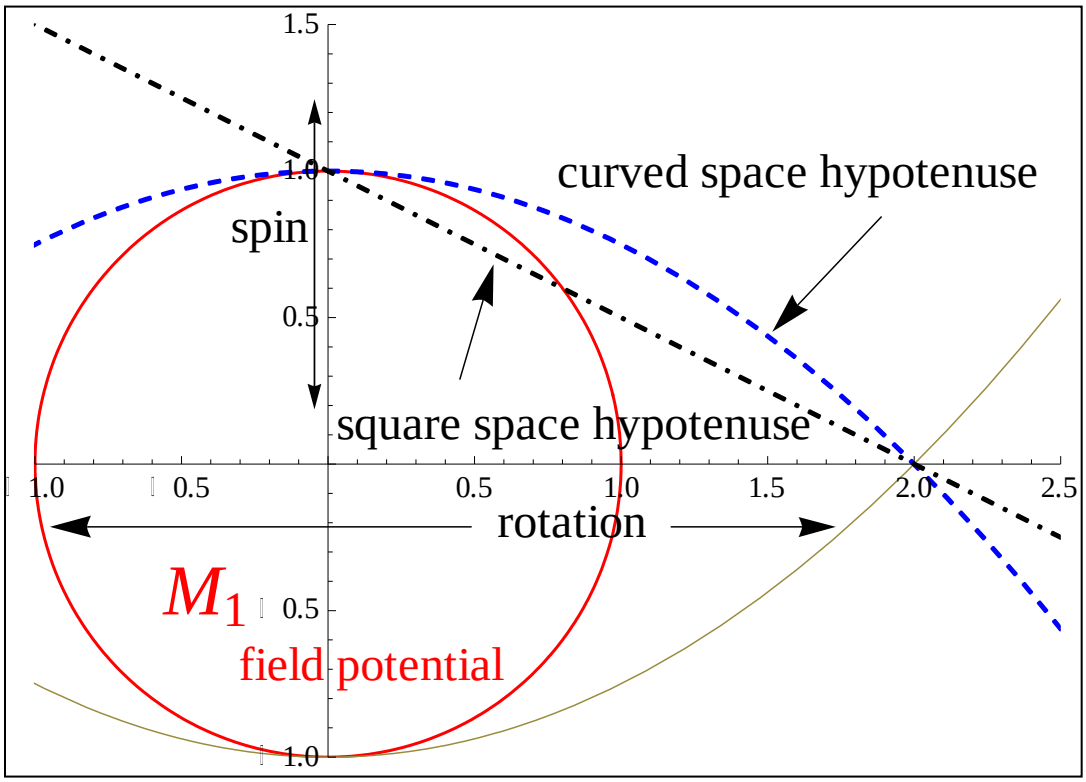
CAGE FREE THINKIN' FROM THE SAND BOX

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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