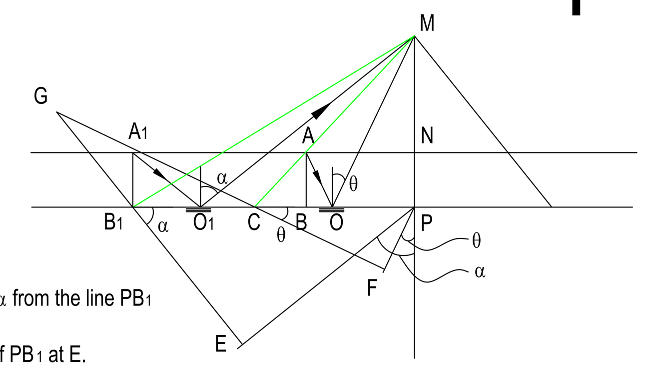
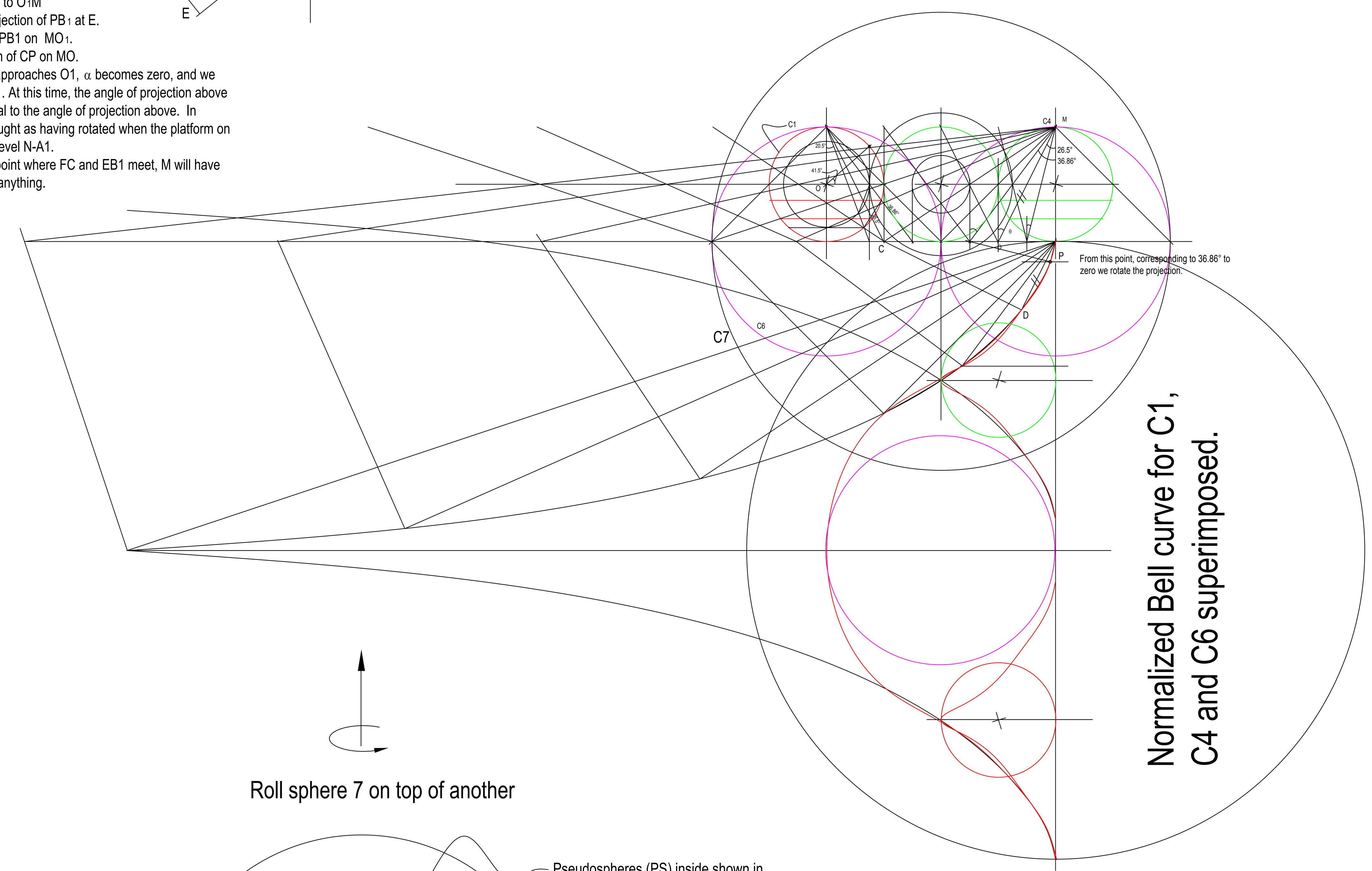
Anti-projection and Normalized wave function

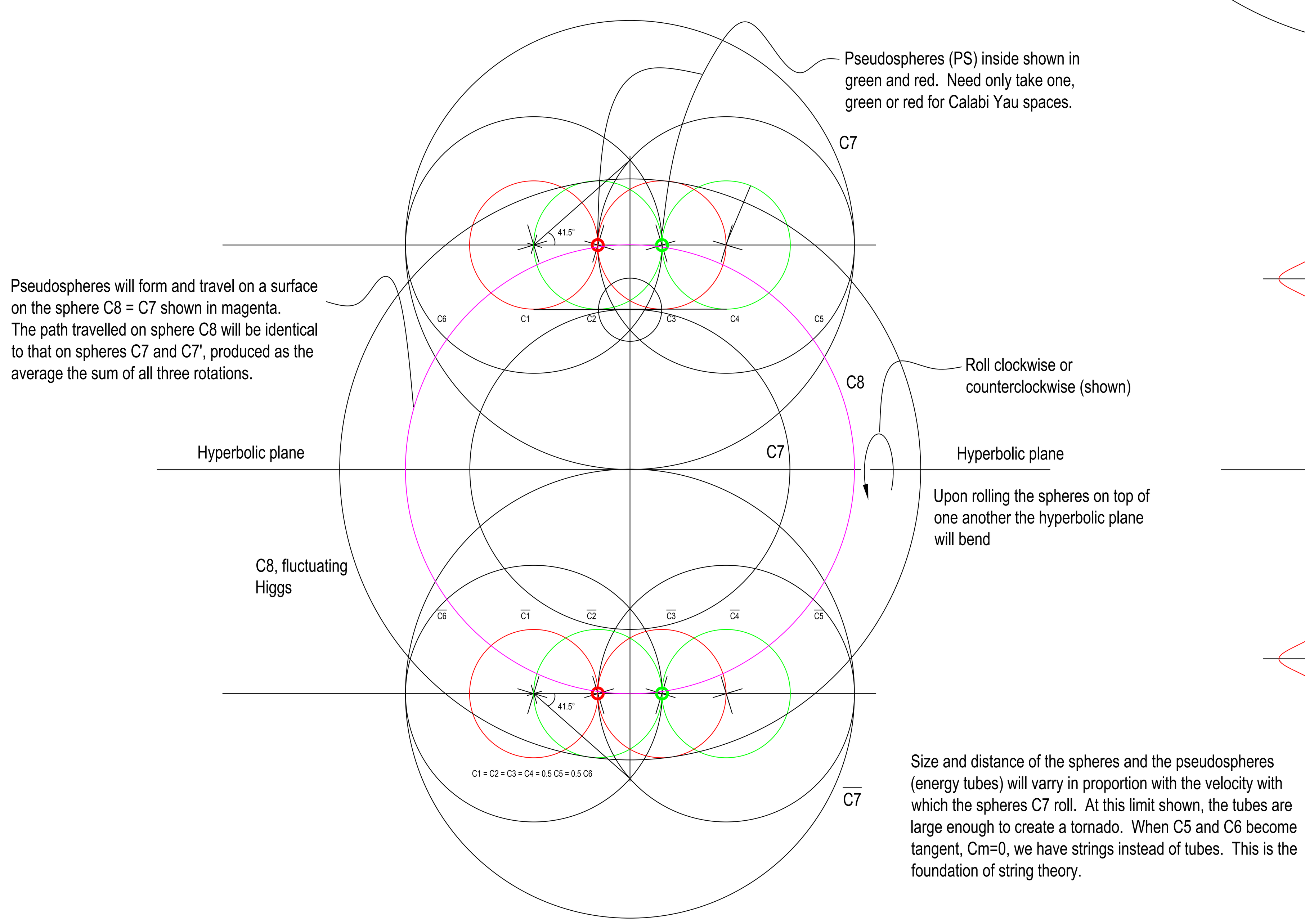


As C5 and C6 intersect so does their frequency distribution function. The relation between the spheres provies us with a vector in three dimensional space. Hence each distribution corresponds to a vector which can be found using Mohr's Circle.

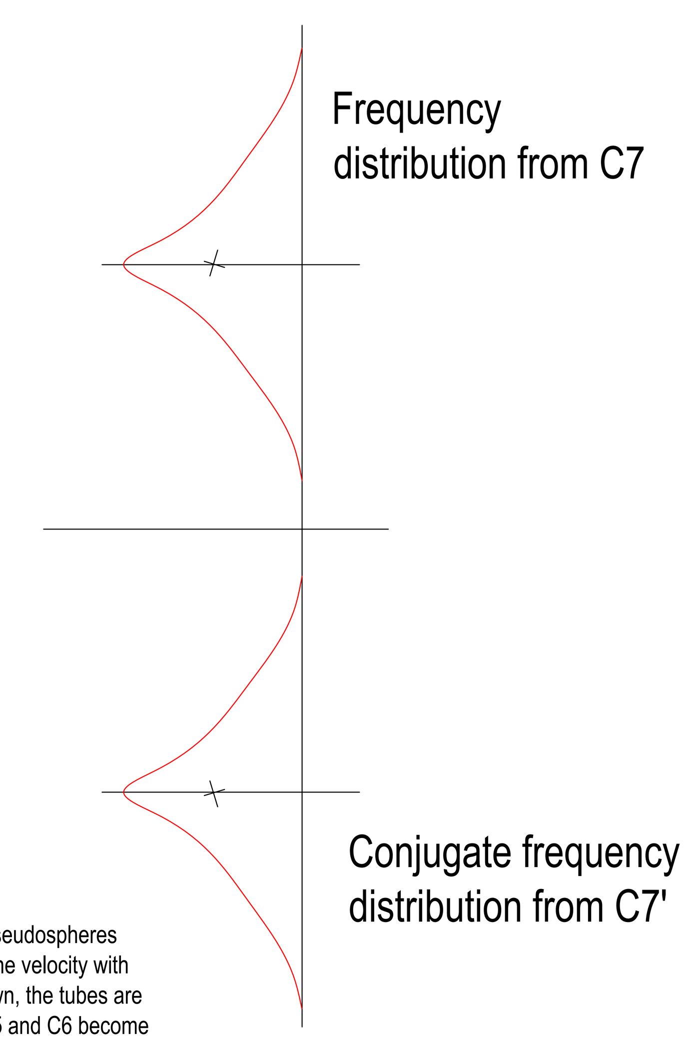
Connect M to B_1
The angle $A_1O_1M = 2\alpha$
From point B_1 draw a line with an angle α from the line PB_1
From point P draw a line parallel to O_1M
This line will intersec the antiprojection of PB_1 at E.
B_1E is then the antiprojection of PB1 on MO_1.
Similarly, CF is the antiprojection of CP on MO.
As the A1 is lowered to B1, B1 approaches O1, α becomes zero, and we are looking directly at M from O1. At this time, the angle of projection above and below the plane PB1 is equal to the angle of projection above. In essence, PF and PE can be thought as having rotated when the platform on which P-B1 lies is raised to the level N-A1.
If we look from G, which is the point where FC and EB1 meet, M will have shrunk to P and we will not see anything.



Roll sphere 7 on top of another



The curved hyperplane C8 fluctuates creating a pathway for the energy to travel within



Having a set of data, one can obtain the probability distribution and eventually put it on a sphere with a vector which points in a certain direction in three dimensional space. There are infinite possibilities and hence n dimensions. One can use only one set but this will not guarantee that the two sets intersect. Hence they are independant. As a minimum two sets are required to obtain the vector in three dimensional space using the Mohr's circle. One can also assume a certain probabilitydependance and have the sets (and hence C5 and C6) intersect, also giving the vector.

One should have at hand two sets of data points in three different times.

Take the angle from the north pole and increase it from zero. Up to 36.86° where the four circles are equal we project left to right, and from 36.86 upwards we project top down. Our point of projection rotates.

From the graph to the left we can get our degree of confidence and relate it to the area under the curve.

Now given a set of data points on a two dimensional graph we can construct the frequency distribution of the points and put them on the sphere with one vector for each set of data.

Perform the operation for another set of points and get another vector.

All the frequency distribution graphs collected, will provide us with a flat or a curved space. If curved, then there is a one on one correspondence between all the points. If flat, then these points on the new flat surface will provide us with a cumulative frequency distribution curve, which is larger or smaller, leading to a sphere which is expanding or contracting. This is what Leibniz meant when he said "Time is the universal order of change in which we ignore the specific kind of changes which have occurred".

The curve should generally be flat since we started with a flat x-y plane to create our "Bell" curve and will varry from the sphere by the sphereical excess. This is the fifth dimension.

Now this bell curve curve surface, which is the inverse projection of the complex plane, in its true sense curves in three dimensions (shown to the right), however using the concept of the top, we can convince ourselves that when one dimension is suppressed, ie; the negative to direction of the tangent velocity to the top from its stationary state, is what suppresses the the curved inverted complex surface to the shape of the flat two dimensional bell curve.

We might get two spheres or two planes with different curvatures. The two cumulative frequency distributions may be of different size resulting in a larger or smaller sphere.

Looking at the sky, which is a two dimensional space, we can determine the curvature of the space we are observing. It is said that when we observe the set of data we have disturbed it and can not measure its properties accurately. Given enough observation data we can determine the level of disturbance or variation.

If one sphere is used, namely C1, then this would lets say correspond to the strength of the material.

If two spheres are used, C1 (C6) and C4 (C5), then the relation between the two spheres can for example be attributed to the load and resistance of the material.

One hundres years of data should suffice to accurately determine the relationship between load and resistance for most structures !!!

Lets go a step further. When our vectors from the first level data sets provide us with points on a flat surface on the first sphere. A second data set with its vectors will give a distribution which can be projected on a second sphere with its own vector in three dimensional space. The relation between the two data sets will be proportional to the radii of the spheres, and so on. If the data sets provide one and the same sphrere, then there is a one to one correspondence between the sets.

The dependance of the vectors of the first level, second level, third leve, and so on, can also be represented with the figure to the right, where each circle or sphere is a variable. Each variable then has its level of contribution proportional to its size.

Vector space corresponding to Sphere 1 which is a subspace of Sphere 2 . (only two vectors shown for clarity) Larger frequency distribution curve will result in a larger sphere. Hence the sphere is expanding in this case.

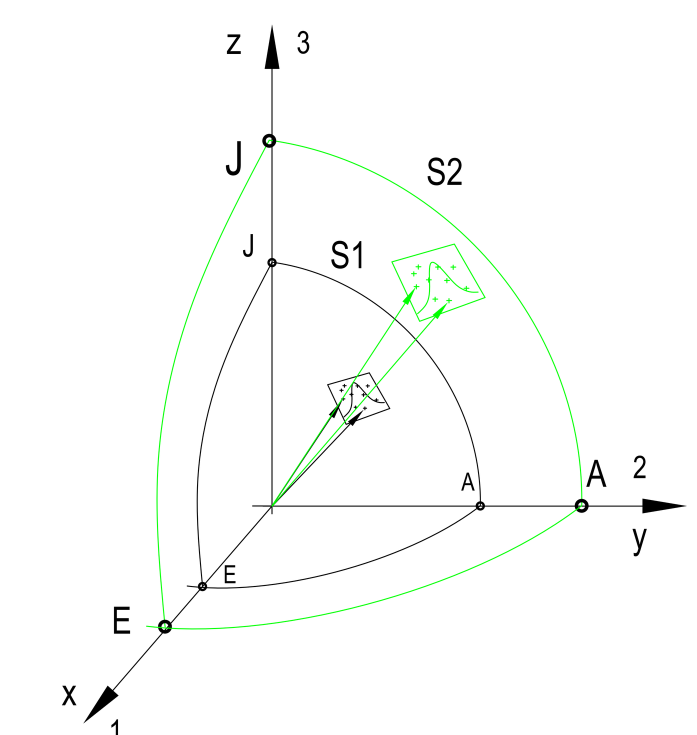
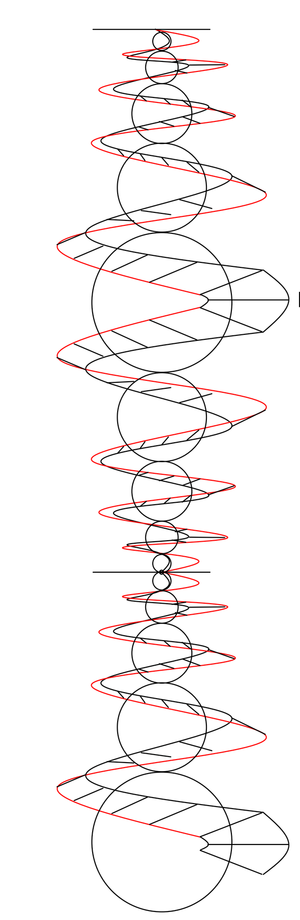
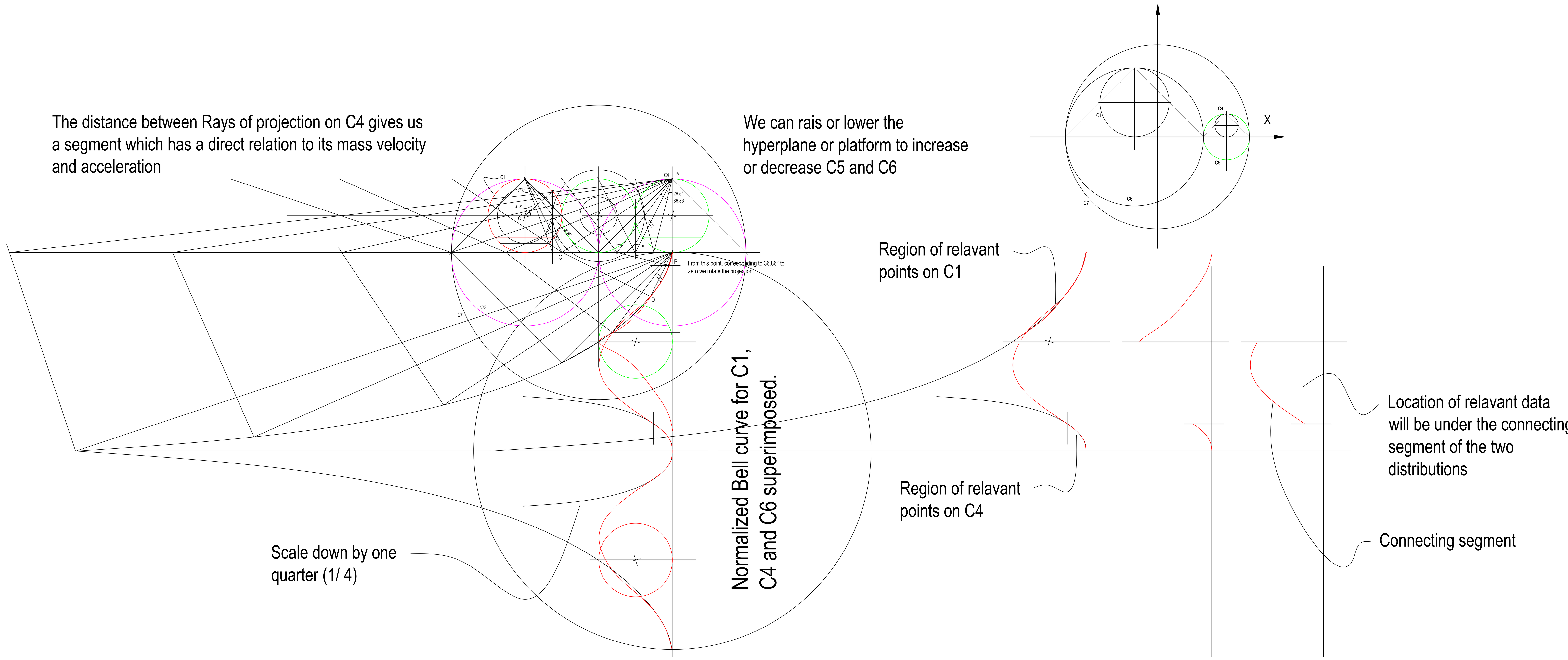
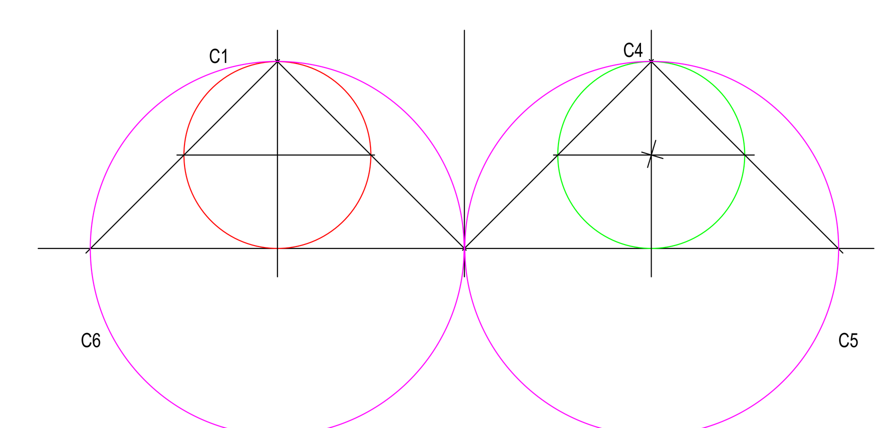


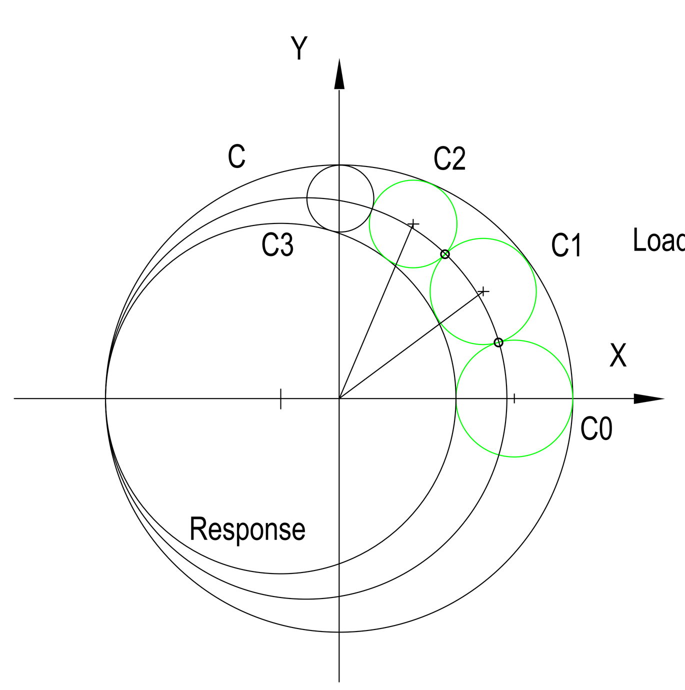
Figure -1

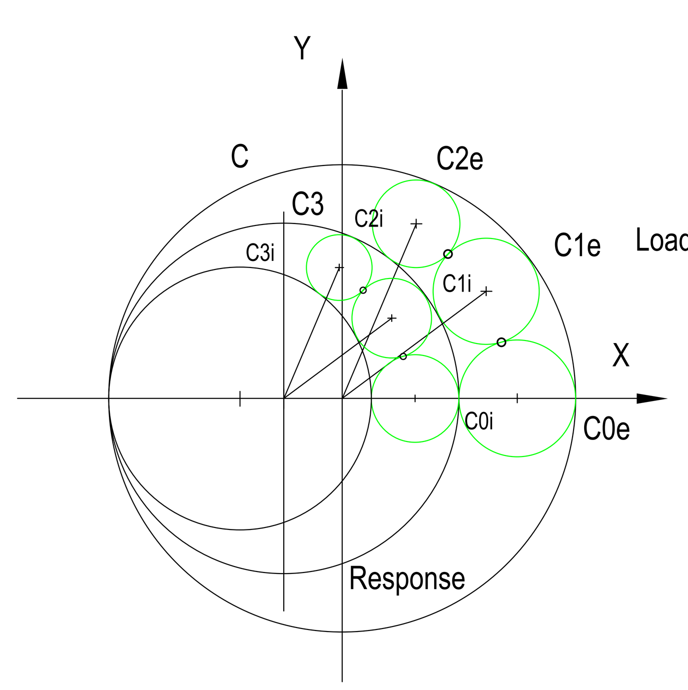


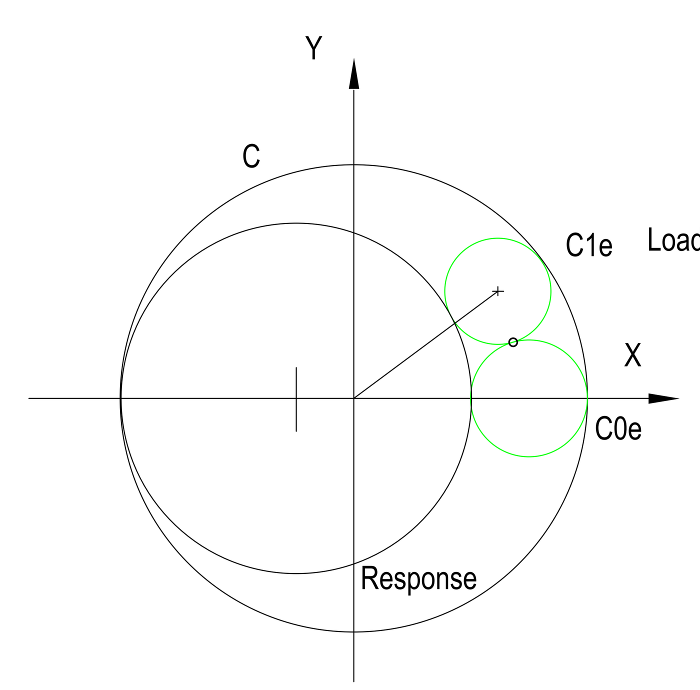


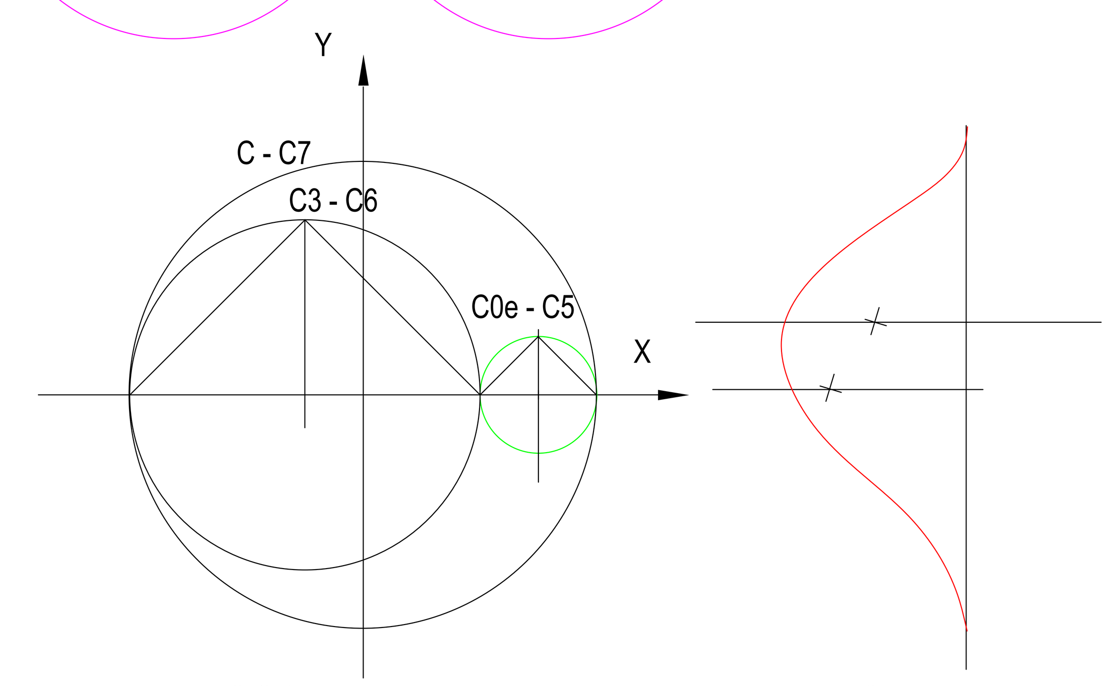


Steiner Chains, Frequency Distributions, and Fractal geometry









Response of a structure, C3 may be dependant on three or more variables, say gravity, wind and earthquake loads each having a , C0, C1 and C2. The combined area C0, C1, C2 .... shall be equal or as close to C3 as possible. (Left figure above)

Now if the response of the structure is dependant on some internal factors designated by i for internal and e for external, say complexity, degree of uncertainity in material properties, and workmanship, then the circles corresponding to the internal variables should be placed on the inside of this diagram.

In the right figure above, then if either of the internal factors are larger the response will be larger. Also if the loards are larger, the response, C3 will be larger.

In the figure above the ratio of C3 / C0e is the same as C3i / C0i which may not be the case.

As the ratio of C3 to C0 is 3 to 1, take three circles, C0, C1, C2. One can take more or skip circles using dummy circles for ones that are not used.

Rotate C1e (or C2e) counterclockwise, or give it a boost so that it equals C0e

After the rotation of C1e counterclockwise we obtain the figure above where C3 is C6 and C0e is C5 with C being C7. The distribution is elliptical (shown to the right in red, exact shape can be obtained using antiprojection) and needs a second rotation, or boost (or a factor)to bring it up to a normal distribution.
As we normalize the distribution, we observe that C7 gets larger once for each circle C0e, C1e, and C2e and has three values, or three circles.
If we take the internal spheres as well, we obtain six (6) C7 spheres.
So far in the figures above the ratio of C3 / C0e is the same as C3i / C0i which may not be the case and the ratio of radii of the three external spheres is not the same as the internal spheres. The difference between the radii of the spheres will be proportional to the frequency distribution.