1 Introduction to GemaTreeAC 2=0

GemaTreeAC 2=0 is a gematria calculator, numerological classification algorithm and a database. Gematria is the mapping of alphabetical characters to numbers by a cipher. The mapping is represented by key-value pairs, the key being the letter and value the number. An ordinal cipher would map a to 1, b to 2, c to 3 and so on. Words have gematria values, too, according to the cipher. The characters in a word are mapped to numbers and their sum is the gematria value of a word. If two words have the same gematria value, they are regarded as as semantically related.

GemaTreeAC has a few more relations than that of the identical gematria value. Numerological reduction creates new categories for numbers: These are the n-digit set, the root number and the route from leaf to root of a number. GeamTreeAC uses this data to compete numeral pairs by their numerological properties. Gematria value of a word is denoted here by v

$$\forall v, v \in N_0$$

The plot also uses simple distance measures:

$$d_{property_{v_0,v_1}} = |property_{v_0} - property_{v_1}|$$

The distances from this process are plotted in a scatter diagram and different numerological relations are color coded. In the following formulas, v_0 is the searched for gematria value of a word and v_1 is a gematria value of a word found in the database.

The numerological distance is calculated as

$$\delta_{v_0,v_1} = \frac{d_{nds_{v_0,v_1}} + d_{root_{v_0,v_1}} + d_{gematria_{v_0,v_1}}}{points_{nds} + points_{root} + points_{route} + points_{gematria} + points_{word}}$$

with some biases and weights to better control the distance measure search results and the plot.

GemaTreeAC's algorithm uses distance measure δ and an angle ϕ to calculate the coordinates of a number. The angle is expressed as

$$\phi = \frac{v}{v_{max}} * 360° \text{where } v_{max} \text{ is the highest } v \text{ in current search}$$

In the plot,

$$x = sin\phi * \delta \quad \text{and} \quad y = cos\phi * \delta$$

The length of a number means the number of digits in a value here.

$$length_v = \text{ number of digits in } v.$$

The n-digit set of v is defined as

$$\nu_v = [10^{length_v - 1}, ..., 9 * (10^0 + 10^1 + 10^2 +, ..., +10^{length_v - 1})]$$

It is true that

$$\forall v, v \in \nu_{length_v}$$

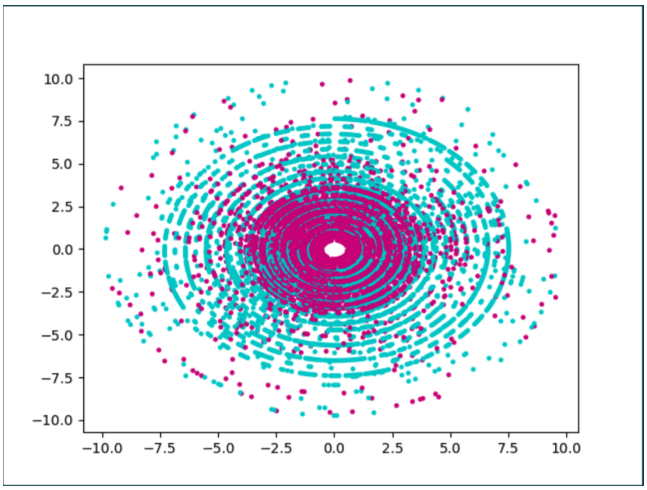

Figure 1: DMS Plot of word 'suuripetotaivos', gematria 66360 in Fibonacci cipher.

Numerological reduction is calculated as

$$parent_v = \sum_{n=0}^{n=length_v} v_n$$

The root number is reached when

$$v \in \nu_1$$

The route to root is defined as

$$route_v = [v, f(v) = f(parent_v)]$$

This means that number 666 has the route $[666, 18, 9]$ and 123 has the route $[123, 6]$.

2 The DMS Plot

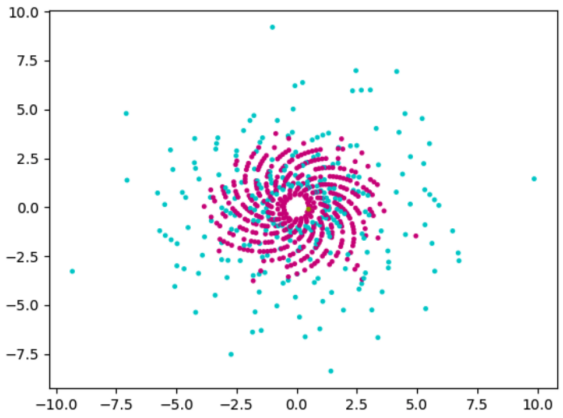

Figure 2: DMS Plot of word 'komplicerande', gematria 387 in English Extended cipher.

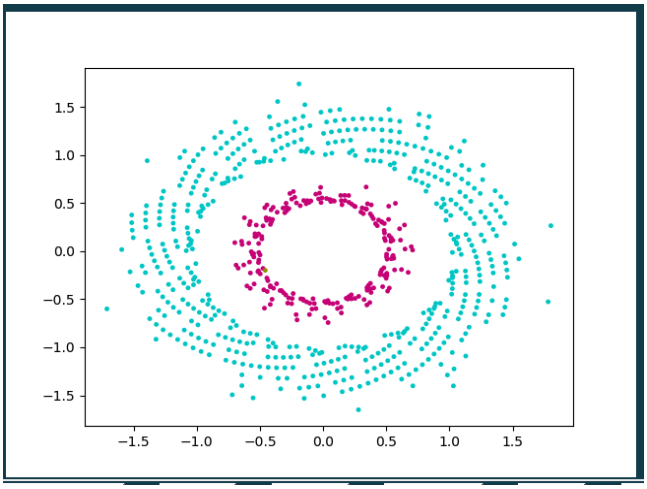

Figure 3: DMS Plot of word 'suuripeto', gematria 1134 in English Extended cipher.